Stantec Consulting Ltd.
300-2100 Derry Road West, Mississauga ON L5N 0B3

April 26, 2019
File: 160622595

Reference: **Caledon Townhouse Development, Stormwater Management Conformance**

Attention: **Mr. John Spina**
Pluribus Corporation
7681 Highway 27 Unit 16
Woodbridge, Ontario L4L 4M5

Dear John,

INTRODUCTION & BACKGROUND

Stantec Consulting Ltd. (Stantec) has been retained by The Chateaux of Caledon Corporation (the "Owner") to prepare this Functional Servicing Brief, for the proposed townhouse development (the "Site") in accordance with the Town of Caledon (the "Town"), The Region of Peel (the "Region") and the Toronto and Regional Conservation Authority (the "TRCA") development guidelines. The site is located in the Town of Caledon, as shown on the Site Plan B101 prepared by Architecture Unfolded dated April 10, 2019 included in **Appendix A.**

The site is located between McElroy Court and Fallis Court in the Town of Caledon, Regional Municipality of York. The site is bounded by existing residential to the north and south, McElroy Court to the east and Fallis Court to the west. See **Figure 1** for the Site Location Plan.

The Subject site is approximately 0.29 hectares (0.71 acres) in size and currently it is a vacant land. Fourteen Town houses are proposed. Seven townhouses are facing McElroy Court and remaining seven are facing Fallis Court.

This report examines the existing boundary servicing (Storm, Sanitary and Water) grading conditions and outlines the serviceability of the site with respect to storm drainage, sanitary servicing, water supply and grading.

The following documents were referenced in the preparation of this report:

- Preliminary Engineering Servicing Report, Chateaux of Caledon Residential Development, Old Church Road and Innis Lake Road, Town of Caledon, Region of Peel, prepared by UMA Engineering Ltd., dated November 9, 2007 [UMA Report];
- Stormwater Management Report, Chateaux of Caledon Corporation, Town of Caledon, prepared by Cole Engineering, dated August 6, 2010 [SWM Report];
- As-Constructed Drawings, prepared by Cole Engineering, dated Dec 07, 2017;
- Policies and Guidelines, Version 4, dated January 2009;
- Sit Plan Control Manual, Town of Caledon, dated September 2013; and,

- Stormwater Management Criteria, Toronto and Regional Conservation Authority dated August 2012.
- Drawing GR6 – Grading Plan (South Commercial Quadrant), Proposed Residential Development, Chateaux of Caledon Phase 2, Part of Lot 21, Concession 1 (Albion), prepared by Cole Engineering, dated July 25, 2012 (Townhouse Block Approval) [Grading Plan];

SITE GRADING

Topographic survey was completed by BMC Construction Layout Services Ltd., on September 07, 2017. The site will be graded to suite the townhouse blocks as per approved grading plan prepared by Cole Engineering. Both Townhouse Blocks are designed to have split drainage. There is an existing rear lot catchbasin provided to capture the backyard flows and direct it to the subdivision storm sewer system. Grades around the perimeter of the site will be set so that existing grades can be matched at the property line. Swales grade are maintained between 2.0% and 5.0%. Our client owns the land in the south-east corner of the development. Therefore 4:1 grading is proposed in this property. The second and third property south of the development are owned by other owners and due to grading constraints, a retaining wall is proposed at the south side of the development. Due to limited space, available along the footprint of the building, a cast in place retaining wall is proposed and after that armor stone retaining wall can be provided. For the retaining wall layout and sections please refer to the Grading Plan **Drawing SG-1**.

SANITARY SERVICING

The sanitary area was approved under the Chateaux of Caledon Residential Development. Subject site was part of Block 142. The total area of the Block 142 was 0.84ha and the approved flow from the block for a total population of 146 persons is 0.0025 m3/sec. the sanitary flow for was calculated based on a 175 persons/hectare for row dwellings as per Region Peel Standard. There is an existing 250mm diameter sanitary sewer on Fallis Court and an existing 250mm diameter sanitary sewer on McElroy Court. Each townhouse will have a single sanitary service lateral connected to the existing sanitary sewers as shown on the Servicing Plan **Drawing SS-1.**

STORM SERVICING

The storm area was approved under the Chateaux of Caledon Residential Development. Subject site was part of Block 142. Both Townhouse Blocks are designed to have split drainage. There is an existing rear lot catchbasin (CB) provided to capture the backyard flows and direct it to the subdivision storm sewer system (existing storm sewer along Fallis Court). There is an existing 600mm diameter storm sewer on Fallis Court and an existing 450mm diameter storm sewer on McElroy Court. Each townhouse will have a single storm service lateral connected to the existing storm sewers.

Townhouse Block 142 will send overland flows to Fallis Court from the high point along the side of the townhouse blocks. Remaining overland flows will be directed towards McElroy Court. A swale along the north side of the townhouse Block 142 is proposed to convey larger storm or flows due to blockage in the rear lot catch basin, to Fallis Court as shown on the Servicing Plan **Drawing SS-1.**

WATER SUPPLY

There is an existing 200mm diameter PVC watermain on the east Fallis Court and an existing 200mm diameter PVC watermain on McElroy Court. Each proposed townhouse will have a single watermain service lateral connected to the existing watermains as shown on the Site Servicing Plan **Drawing SS-1.**

STORMWATER MANAGEMENT

Based on the SWM Report (specifically Figure DAP2 Post-Development Storm Drainage Area), the Site will drain to the existing SWM Pond located south of Street A (or Atchison Drive), east of Existing Houses, west of Special Use Area, north of Old Church Road. The Site is part of Catchment “A2POST”, 5.92 ha at 54% imperviousness.

The SWM criteria were:

1. Control post-development peak flows for all storm events up to the 100-year frequency design storm to unit flows resulting from the Humber River Watershed unit rate equations, provided by TRCA;

2. Enhanced (80% TSS Removal) Quality Control;

3. Erosion potential to be mitigated through maximizing infiltration through the site. In addition, detain runoff from 25 mm event for 24 hours; and,

4. Existing water balance conditions are to be maintained, as required by TRCA.

– The SWM Report’s Plan was to provide for criteria 1-3 in the SWM Pond, and 4 via a combination of soakaway pits, downspout disconnect, and infiltration trenches along some rear-lots. No measures were proposed in the Site.

Therefore, the SWM requirements for the Site are achieved by the SWM pond and water balance measures located elsewhere in the overall development.

EROSION AND SEDIMENTATION CONTROL

Prior to the initiation of any construction within the site, a comprehensive Erosion and Sediment Control program acceptable to the Town of Caledon (Town), The Region of Peel (Region), and the Toronto and Regional

Conservation Authority (TRCA) will be implemented. Appropriate drawings will be prepared at the detailed design stage and submitted to the Agencies for review and approval.

The future ESC plans will include all necessary siltation control facilities and will be designed in accordance with current Town and TRCA guidelines. Below is a list of recommended erosion and sediment control measures that will be outlined during the construction of the subject property:

- Temporary sediment control fences shall be installed prior to commencing grading activities.
- Temporary mud tracking and dust control measures at construction entrance.
- Install temporary swales with rock check dams as required.
- All proposed open space areas will be restored with topsoil and vegetation as per the landscape plan.

All temporary erosion and sediment control measures will be routinely inspected and repaired during construction. Temporary controls will not be removed until the areas they serve are restored and stable.

CONCLUSION

Based on the findings of this servicing brief, the conclusions and recommendations are as follows:

- The proposed overall grading design for the site can be achieved using conventional design standards and compliance to the proposed Stormwater Management strategy.
- The SWM requirements for the Site are achieved by the SWM pond and water balance measures located elsewhere in the overall development.
- Major and minor system drainage will mimic existing conditions.
- Adequate provision has been made for conveyance of the sanitary and storm sewer drainage in the Chateaux of Caledon Residential development.
- The proposed development can be serviced with municipal water supply by connecting service connection to the existing watermain on McElroy Court and Fallis Court.

Reference: **Caledon Townhouse Development, Stormwater Management Conformance**

Regards,

Asif Quader, Ph.D., P. Eng.
Water Resources Engineer
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Asif.quader@stantec.com

Shafqat Ali Khan, P.Eng, PMP
Senior Project Manager
Phone: 905-858-4424 ext 312
Fax: 905-858-4426
Ali.Khan@Stantec.com

Attachment: Appendix A: Site Plan
Appendix B: Figures
Appendix C: Existing Information

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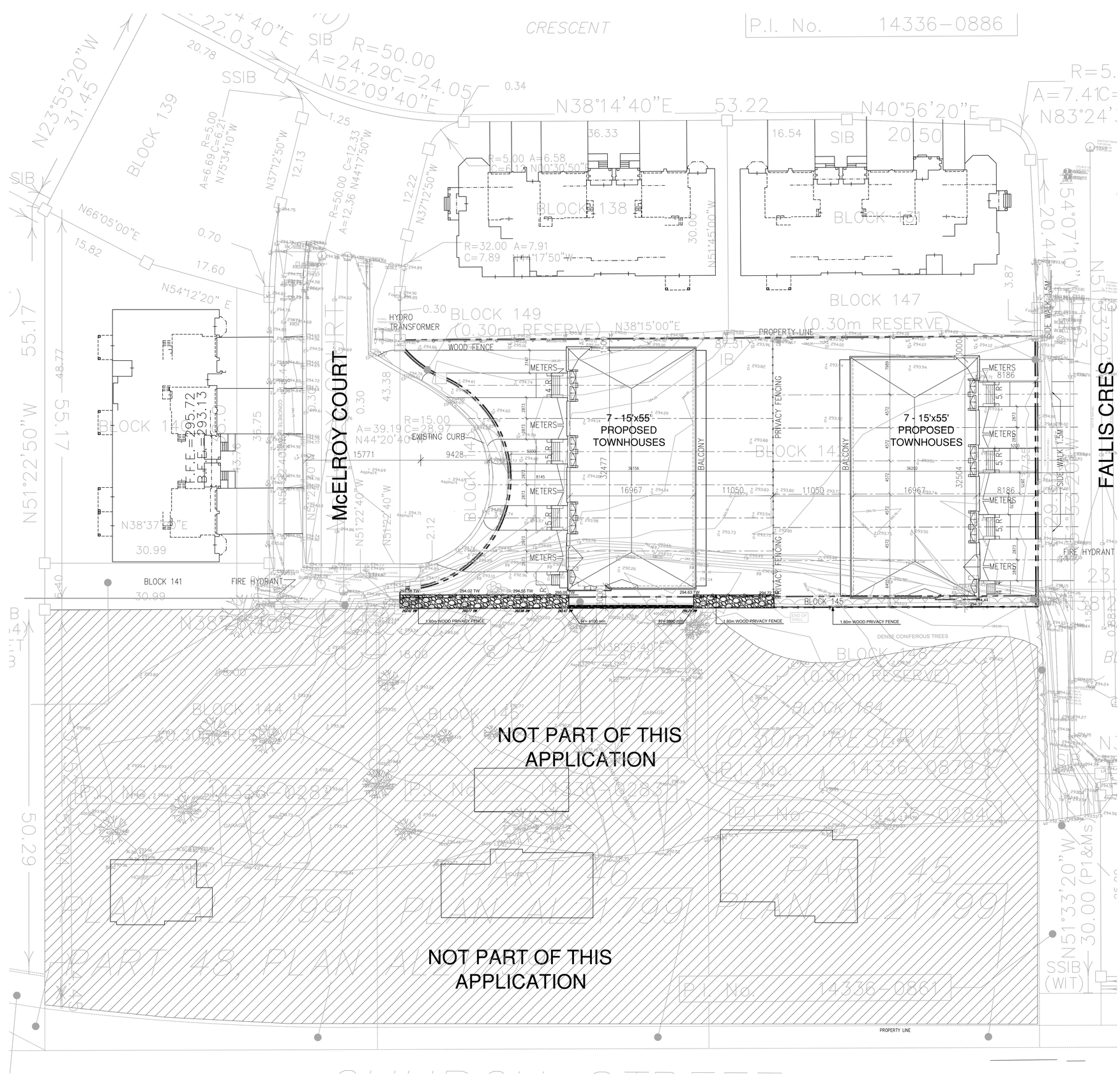
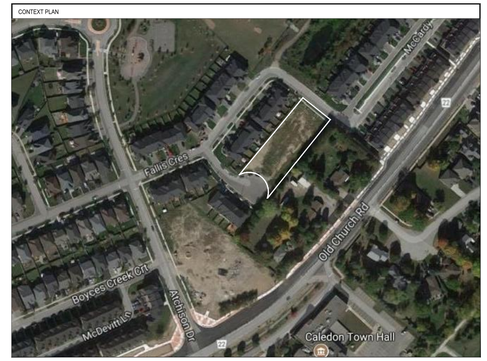
APPENDIX A: SITE PLAN

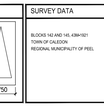


CONTEXT PLAN



LEGEND			
	MAIN ENTRANCE		CATCH BASIN
	EXIT		HYDRO POLE
	SERVICE		MANHOLE
	EXISTING ELEVATION		FIRE HYDRANT
+99.99	PROPOSED ELEVATION		BOLLARD LIGHT REFER TO ELEC DWGS
99.99	SLAB ELEVATION		HANDICAPPED PARKING

TYPICAL PARKING SPACE



SERVIED BY 6m DRIVE ABLES

SURVEY DATA

BLOCKS 142 AND 145, 43M-1521
TOWN OF CALEDON
REGIONAL MUNICIPALITY OF PEEL

TOPOGRAPHIC SURVEY:
B.M.C./CONSTRUCTION LAYOUT SERVICE LTD
05/12/2018

ZONING MATRIX

ZONING DESIGNATION: TOWN OF CALEDON BY-LAW	CALEDON ZONING BY-LAW 2011-27 RT-538-H18	PROPOSED
LOT AREA PER UNIT (min.)	195 m2 / unit	160 m2 / unit
LOT FRONTAGE (max.)	7 m	4.5 m
BUILDING AREA (max.)	60%	55%
FRONT YARD (min.)	6 m	4.8 m
EXTERIOR SIDE YARDS (min.)	4.50 m	N/A
REAR YARD (min.)	7.50 m	11 m
INTERIOR SIDE YARDS (min.)	1.5 m	1.50 m
BACKYARD AMENITY AREA	37 m2	50 m2
INTERIOR GARAGE WIDTH (min.)	3 m	2.75 m
BUILDING SEPARATION (min.) between townhouses	3 m	N/A
DWELLING UNITS PER TOWNHOUSE BUILDING (max.)	8	7
BUILDING HEIGHT (max.)	10.0 m	11.9 m
PARKING SPACES (min.)	2 per dwelling unit	3 per dwelling unit
PARKING SPACE SIZE (min.)	2.75m X 6m	2.75m X 6m
DRIVEWAY SETBACK (min.)		
lot line bisect, attached dwell. unit from all other lot lines	nil 1.5m	nil 1.5m

OBC MATRIX

Firm name:
architecture unfolded
The Certificate of Practice Number of the holder is the holder's BCIN.
4957
Name of Project:
Chateaux Townhouse
Location:
Caledon, Ontario

ONTARIO ASSOCIATION OF ARCHITECTS
MARK ALEXANDER ZWICKER
LICENCE 5887

Item	Ontario Building Code Data Matrix Part 3 or 9					OBC Reference	
1.	Project Description:	☐ Change of Use	■ New ☐ Addition ☐ Alteration	☐ Part 11 11.1 to 11.4		☐ Part 3	■ Part 9 2.1.1 9.10.1.3
2.	Major Occupancy(s) Group C, (RESIDENTIAL)					3.2.2.45	9.10.2
3.	Building Area (m2)	Existing _____	New 511.0 m2		Total 511.0 m2	1.1.3.2	1.1.3.2
4.	Gross Area (m2)	Existing _____	New 1,544.3 m2		Total 1,544.3 m2(per flr)	1.1.3.2	1.1.3.2
5.	Number of Storeys	3			Below grade 0	3.2.1.1 & 1.1.3.2	2.1.1.3
6.	Number of Streets/Fire Fighter Access 1					3.2.2.10 & 3.2.5	9.10.19
7.	Building Classification					3.2.2.45	9.10.4
8.	Sprinkler System Proposed		☐ Entire Building			3.2.2.15, 11.4.3.4 (c), 3.3.4.3(1), 3.6.2.1(3)(b), 3.6.3.3(b)	9.10.8
9.	Standpipe required		☐ Yes ■ No			3.2.5.16	N/A
10.	Fire Alarm required		☐ Yes ■ No			3.2.4	9.10.17.2
11.	Water Service/Supply is Adequate		■ Yes ☐ No			3.2.5.7	N/A
12.	High Building		☐ Yes ■ No			3.2.6	N/A
13.	Permitted Construction Actual Construction	■ Combustible ■ Combustible	☐ Non-combustible ☐ Non-combustible		☐ Both ☐ Both	3.2.2.20-83	9.10.6
14.	Mezzanine(s) Area m2 N/A					3.2.1.1.(3)-(8)	9.10.4.1
15.	Occupant load based on	☐ m2/person	■ design of building			3.1.16	9.9.1.3
16.	Barrier-free Design	☐ Yes	■ No(Explain) townhouse			3.8	9.5.2
17.	Hazardous Substances	☐ Yes ■ No				3.3.1.2. & 3.3.1.19	9.10.1.3.(4)
18.	Required Fire Resistance Rating (FRR)	Horizontal Assemblies FRR (Hours)		Listed Design No. or Description		3.2.2.20-83 & 3.2.1.4	9.10.8 9.10.9
		Floors n/a		SB-3			
		Roof n/ss					
		FFR of support members – 1 Hour		SB-3			
		mezzanine 2 Hours		N/A			
19.	Spatial Separation – Construction of Exterior Walls					3.2.3	9.10.14

Wall	Area of EBF (m2)	L.D. (m)	L/H or H/L	Permitted Max. % of Openings	Proposed % of Openings	FRR (Hours)	Listed Design or Description	Comb Const	Comb. Constr. Nonc. Cladding	Non-comb. Constr.
North	132.8	3		10	9.7					
South	133.7	1.5		7	7					
East	street – unlimited									
West	229	10.3		40	18.3					

20. Other – Describe

Lighting Notes:
a. Lighting fixtures shall be installed in such a manner that all light emitted from the fixture, either directly from the lamp or a diffusing element, or indirectly by reflection or refraction from any part of the fixture is projected below the fixture and onto the lot the lighting is intended to serve,
b. the maximum height of all lighting fixtures is 8.0m
c. minimum distance of lighting fixtures from any lot line is 4.5m

Copyright of this drawing and design is reserved by the Designer. The drawing and all associated documents are an instrument of service by the Designer. The drawing and the information contained therein may not be reproduced in whole or in part without prior written permission of the designer.

These Contract Documents are the property of the architect. The architect bears no responsibility for the interpretation of these documents by the Contractor. Upon written application the architect will provide written/graphic clarification or supplementary information regarding the intent of the Contract Documents. The architect will review Shop Drawings submitted by the Contractor for design conformance only.

Drawings are not to be scaled for construction. Contractor to verify all existing conditions and dimensions required to perform the work and report any discrepancies with the Contract Documents to the architect before commencing work.

Positions of exposed or finished mechanical or electrical devices, fittings, and fixtures are indicated on architectural drawings. The locations shown on the architectural drawings govern over the Mechanical and Electrical drawings. Those items not clearly located will be located as directed by the architect.

These drawings are not to be used for construction unless noted below as "Issued for Construction"

All work to be carried out in conformance with the Code and bylaws of the authorities having jurisdiction.

The Designer of these plans and specifications gives no warranty or representation to any party about the constructability of the represented by them, all contractors or subcontractors must satisfy themselves when bidding and at all times that they can properly construct the work represented by these plans.

notes:

3 reissued for rezoning/spa 04-30-19
2 issued for rezoning/spa 02-23-18
1 issued for client review 11-22-17
revisions:

ONTARIO ASSOCIATION OF ARCHITECTS
MARK ALEXANDER ZWICKER
LICENCE 5887

architectural team :
mark zwicker
bonnie douthwright
michelle friesen

planning:
paul a. king

structural:
-

electrical:
-

mechanical:
-

landscape:
insite landscape architects

leed:
-

site services:
stantec consulting ltd

project:
chateaux towns
0 mcelroy court
caledon, ontario
spa# 2018-0007

owner:
pluribus corp.
55 blue willow drive, woodbridge, on lll 9e8
applicant:
paul a. king
905 770 0232

context plan & statistics

date: april 30.2019
scale: 1:250
project: 17-50
drawn by: mf

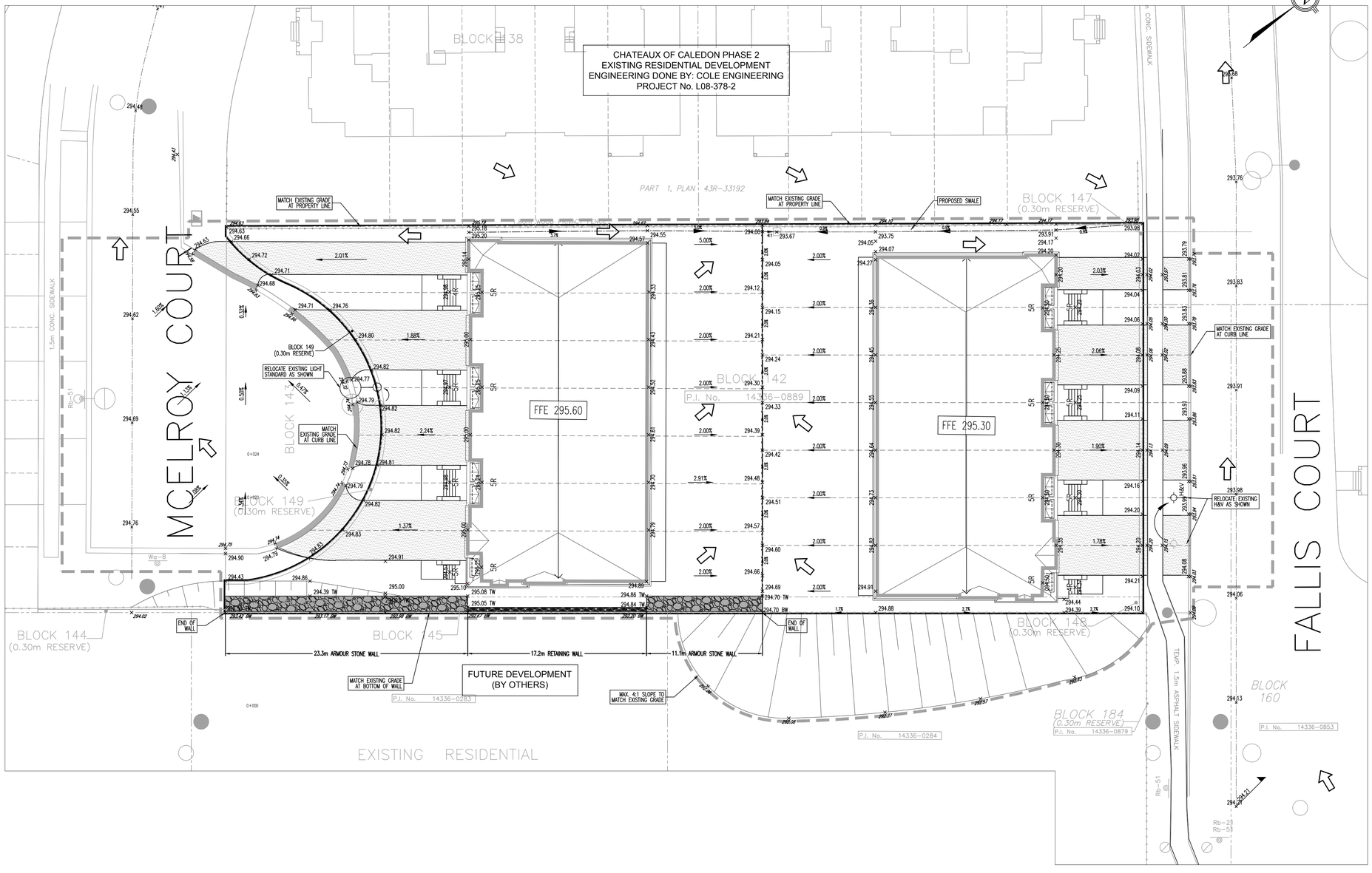
true north
construction north

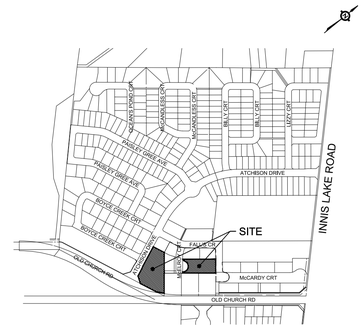
drawing number: B101

architecture unfolded
368 dufferin street, suite 201b, toronto, on. m6k 3z8 tel: (416)601.5416 info@unfolded.ca

APPENDIX B: FIGURES

CHATEAUX OF CALEDON PHASE 2
EXISTING RESIDENTIAL DEVELOPMENT
ENGINEERING DONE BY: COLE ENGINEERING
PROJECT No. L08-378-2





KEY PLAN SCALE 1:7500

LEGEND

- EXISTING SANITARY MANHOLE
- EXISTING STORM MANHOLE
- EXISTING SINGLE CATCHBASIN
- EXISTING DOUBLE CATCHBASIN
- EXISTING VALVE & BOX
- EXISTING VALVE & CHAMBER
- EXISTING HYDRANT & VALVE
- EXISTING WATER SERVICE BOX LOCATION
- EXISTING UTILITY LAMP
- 175.0 EXISTING CONTOUR AND ELEVATION
- ×295.06 EXISTING SPOT ELEVATION
- ×295.06 PROPOSED SPOT ELEVATION
- 2.0% PROPOSED SLOPES
- 2.0% EXISTING SLOPES
- OVERLAND FLOW
- SUBJECT SITE
- LIMIT OF CONSTRUCTION
- EXISTING ROAD GEADES
- EXISTING HIGH/LOW POINT

No.	DESCRIPTION	DATE	BY	APPROVED
4.				
3.				
2.				
1.				

REVISIONS

APPROVED FOR CONSTRUCTION

THIS APPROVAL CONSTITUTES A GENERAL REVIEW AND DOES NOT CERTIFY DIMENSIONAL ACCURACY.

THIS APPROVAL IS SUBJECT TO THE FURTHER CERTIFICATION OF THE "AS CONSTRUCTED" WORKS BY A REGISTERED PROFESSIONAL ENGINEER OF THE PROVINCE OF ONTARIO

DATE: _____ APPROVED BY: _____

BENCH MARK:
ELEVATIONS ARE IN METRES AND ARE DERIVED FROM REGION OF PEEL BENCHMARK No. 25. ON THE NORTH FACE AT THE WEST CORNER OF A TWO STOREY CONCRETE BLOCK BUILDING LOCATED ON THE EAST SIDE OF AIRPORT ROAD APPROXIMATELY 0.32 KM NORTH OF THE NORTHERLY LIMIT OF CALEDON EAST.
ELEVATION = 310.640

Stantec Consulting Ltd.
675 COCHRANE DRIVE, WEST TOWER SUITE 300
MARKHAM, ONTARIO L3R 0B8
TELEPHONE: (905) 944-7777
FAX: (905) 474-9889

LICENSED PROFESSIONAL ENGINEER
S.A. KHAN
100085491
APR.26/19
PROVINCE OF ONTARIO

PROJECT NAME
PROPOSED TOWNHOUSE DEVELOPMENT
CHATEAUX OF CALEDON CORPORATION

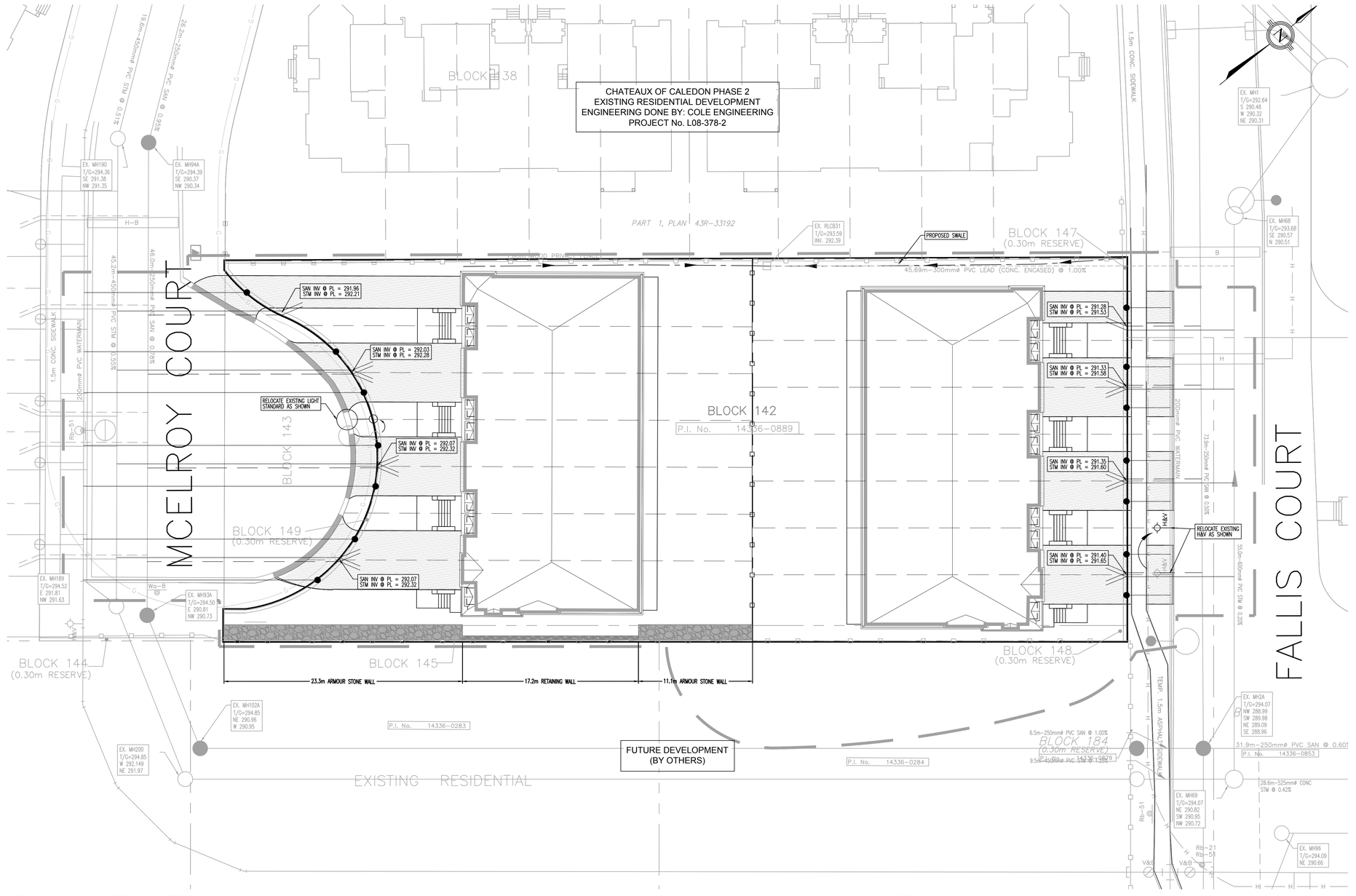
Region of Peel
RZ-18-002C , SP-18-002C

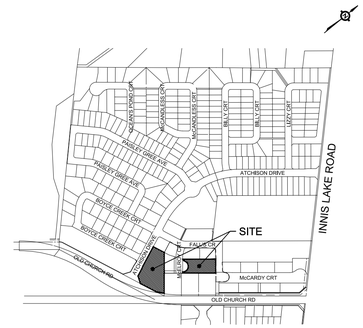
THE CORPORATION OF THE
TOWN OF CALEDON

GRADING PLAN

SCALE : 1:200		PROJECT No. 160622596
DESIGN BY: JL	CHECKED BY: SK	DRAWING No. SG-1
DRAWN BY: JL	DATE: FEBRUARY 2019	

File \\CI1215-F01\work_group\05606\Active\160622596\Drawing\sheet_files\160622596-TH_C-01-SG-1.dwg - Revised by (Georgers, Desley) - Mon, Apr 29, 2019 , 1:04 PM





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- EXISTING SANITARY MANHOLE
- EXISTING SINGLE CATCHBASIN
- EXISTING DOUBLE CATCHBASIN
- DRIVEWAY LOCATION
- EXISTING HYDRANT & VALVE
- EXISTING VALVE & CHAMBER
- EXISTING VALVE & BOX
- EXISTING WATER SERVICE BOX LOCATION
- PROPOSED WATER SERVICE BOX LOCATION
- EXISTING WATERMAIN
- EXISTING SINGLE WATER SERVICE CONNECTION
- PROPOSED SINGLE WATER SERVICE CONNECTION
- EXISTING SINGLE SAN/STM SERVICE CONNECTION
- PROPOSED SINGLE SAN/STM SERVICE CONNECTION
- EXISTING UTILITY LAMP
- SUBJECT SITE
- LIMIT OF CONSTRUCTION

No.	DESCRIPTION	DATE	BY	APPROVED
4.				
3.				
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ELEVATION = 310.640

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FAX: (905) 474-9889

LICENSED PROFESSIONAL ENGINEER
S.A. KHAN
100085491
APR.26/19
PROVINCE OF ONTARIO

PROJECT NAME
PROPOSED TOWNHOUSE DEVELOPMENT
CHATEAUX OF CALEDON CORPORATION

Region of Peel
RZ-18-002C , SP-18-002C

THE CORPORATION OF THE
TOWN OF CALEDON

SERVICING PLAN

REGION OF PEEL NOTES:

1. ALL MATERIALS AND CONSTRUCTION METHODS MUST CORRESPOND TO THE CURRENT PEEL PUBLIC WORKS STANDARDS AND SPECIFICATIONS.
2. WATERMAIN AND/OR WATER SERVICE MATERIALS 100 MM (4") AND LARGER MUST BE DR 18 P.V.C. PIPE MANUFACTURED TO A.W.W.A. SPEC. C900-16 SPEC COMPLETE WITH TRACER WIRE. SIZE 50 MM (2") AND SMALLER MUST BE TYPE 'K' SOFT COPPER PIPE PER A.S.T.M. B88-49 SPECIFICATION.
3. WATERMAINS AND/OR WATER SERVICES ARE TO HAVE A MINIMUM COVER OF 1.7 M (5'6") WITH A MINIMUM HORIZONTAL SPACING OF 1.2 M (4") FROM THEMSELVES AND ALL OTHER UTILITIES.
4. PROVISIONS FOR FLUSHING WATER LINE PRIOR TO TESTING, ETC. MUST BE PROVIDED WITH AT LEAST A 50 MM (2") OUTLET ON 100 MM (4") AND LARGER LINES. COPPER LINES ARE TO HAVE FLUSHING POINTS AT THE END, THE SAME SIZE AS THE LINE. THEY MUST ALSO BE HOSED OR PIPED TO ALLOW THE WATER TO DRAIN ONTO A PARKING LOT OR DOWN A DRAIN. ON FIRE LINES, FLUSHING OUTLET TO BE 100 MM (4") DIAMETER MINIMUM ON A HYDRANT.
5. ALL CURB STOPS TO BE 3.0 M (10') OFF THE FACE OF THE BUILDING UNLESS OTHERWISE NOTED.
6. HYDRANT AND VALVE SET TO REGION STANDARD 1 - 6 - 1 DIMENSION A AND B, 0.7 M (2') AND 0.9 M (3') AND TO HAVE PUMPER NOZZLE.
7. WATERMAINS TO BE INSTALLED TO GRADES AS SHOWN ON APPROVED SITE PLAN. COPY OF GRADE SHEET MUST BE SUPPLIED TO INSPECTOR PRIOR TO COMMENCEMENT OF WORK, WHERE REQUESTED BY INSPECTOR.
8. WATERMAINS MUST HAVE A MINIMUM VERTICAL CLEARANCE OF 0.3 M (12") OVER / 0.5 M (20") UNDER SEWERS AND ALL OTHER UTILITIES WHEN CROSSING.
9. ALL PROPOSED WATER PIPING MUST BE ISOLATED FROM EXISTING LINES IN ORDER TO ALLOW INDEPENDENT PRESSURE TESTING AND CHLORINATING FROM EXISTING SYSTEMS.
10. ALL LIVE TAPPING AND OPERATION OF REGION WATER VALVES SHALL BE ARRANGED THROUGH THE REGIONAL INSPECTOR ASSIGNED OR BY CONTACTING THE OPERATIONS AND MAINTENANCE DIVISION.
11. LOCATION OF ALL EXISTING UTILITIES IN THE FIELD TO BE ESTABLISHED BY THE CONTRACTOR.
12. THE CONTRACTOR(S) SHALL BE SOLELY RESPONSIBLE FOR LOCATES, EXPOSING, SUPPORTING AND PROTECTING OF ALL UNDERGROUND AND OVERHEAD UTILITIES AND STRUCTURES EXISTING AT THE TIME OF CONSTRUCTION IN THE AREA OF THEIR WORK WHETHER SHOWN ON THE PLANS OR NOT AND FOR ALL REPAIRS AND CONSEQUENCES RESULTING FROM DAMAGE TO SAME.
13. THE CONTRACTOR(S) SHALL BE SOLELY RESPONSIBLE TO GIVE 72 HOURS WRITTEN NOTICE TO THE UTILITIES PRIOR TO CROSSING SUCH UTILITIES, FOR THE PURPOSE OF INSPECTION BY THE CONCERNED UTILITY. THIS INSPECTION WILL BE FOR THE DURATION OF THE CONSTRUCTION, WITH THE CONTRACTOR RESPONSIBLE FOR ALL COSTS ARISING FROM SUCH INSPECTION.
14. ALL PROPOSED WATER PIPING MUST BE ISOLATED THROUGH A TEMPORARY CONNECTION THAT SHALL INCLUDE AN APPROPRIATE CROSS-CONNECTION CONTROL DEVICE, CONSISTENT WITH THE DEGREE OF HAZARD, FOR BACKFLOW PREVENTION OF THE ACTIVE DISTRIBUTION SYSTEM, CONFORMING TO REGION OF PEEL STANDARDS 1-7-7 OR 1-7-8.

NOTES:

1. ALL PROPOSED WATER SERVICES TO BE 19mmø TYPE 'K' COPPER AND AS PER REGION OF PEEL STD 1-7-1.
2. ALL WATER METERS FOR PROPOSED LOTS TO BE LOCATED INSIDE THE BUILDING AND TO BE AS PER REGION OF PEEL STD 1-4-7.
3. ALL PROPOSED SANITARY SERVICING CONNECTION TO BE 125mm PVC SDR-28 @ MIN. 2.0% SLOPE AND AS PER REGION OF PEEL STD 2-4-4.

SCALE : 1:200		PROJECT No. 160622596
DESIGN BY: JL	CHECKED BY: SK	DRAWING No. SS-1
DRAWN BY: JL	DATE: FEBRUARY 2019	

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ENGINEERING DRAWINGS

GENERAL NOTES

1. CONSTRUCTION FOR THIS PROJECT TO COMPLY WITH THE MOST CURRENT VERSION OF THE DEVELOPMENT STANDARDS, POLICIES AND GUIDELINES, PREPARED BY THE TOWN OF CALEDON, PUBLIC WORKS DEPARTMENT AND THE ONTARIO PROVINCIAL STANDARDS AND SPECIFICATIONS.
2. ALL PROPOSED CONSTRUCTION SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS.
3. WITHIN A MINIMUM OF FORTY–EIGHT HOURS PRIOR TO COMMENCING CONSTRUCTION WITHIN THE MUNICIPAL RIGHT–OF–WAY, THE CONTRACTOR MUST CONTACT THE FOLLOWING:

   THE TOWN OF CALEDON PUBLIC WORKS DEPARTMENT 905–584–2272

   THE REGION OF PEEL 905–791–7800

   ENBRIDGE CONSUMERS GAS 905–758–7924

   HYDRO ONE 519–941–1211

   BELL CANADA 416–296–6929

   ROGERS CABLE 905–897–3914

GRADING AND DRAINAGE

1. ALL DRAINAGE TO BE SELF–CONTAINED AND DISCHARGED TO A LOCATION APPROVED BY THE PUBLIC WORKS AND ENGINEERING DEPARTMENT.
2. SEDIMENT CONTROL DEVICES ARE TO BE INSTALLED PRIOR TO ANY CONSTRUCTION ON THE SITE AND SHALL BE INSPECTED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD TO THE SATISFACTION OF THE TOWN OF CALEDON AND THE APPLICABLE CONSERVATION AUTHORITY.
3. A MINIMUM OF 1.5M CLEARANCE IS TO BE PROVIDED FROM THE LIMITS OF ALL SIDEWALKS AND DRIVEWAYS TO EXISTING UTILITY STRUCTURES WITHIN THE MUNICIPAL RIGHT–OF–WAY. IF THIS CLEARANCE IS NOT MAINTAINED, THE STRUCTURES SHALL BE RELOCATED AT THE APPLICANT'S EXPENSE.
4. STREET CURBS ARE TO BE CONTINUOUS WITHIN THE PROPOSED ENTRANCE.
5. ANY CHANGES TO GRADES OR SERVICING FROM THE ORIGINALLY APPROVED SITE PLAN MUST BE APPROVED BY THE TOWN OF CALEDON PUBLIC WORKS DEPARTMENT.
6. STRUCTURAL DESIGN OF THE FIRE ROUTE IS REQUIRED TO SUPPORT AN 18–TON VEHICLE. AS SUCH THE DRAWING IS TO SHOW AREAS OF HEAVY ASPHALT AND LIGHT ASPHALT AND IS TO PROVIDE DESIGN INFORMATION.
7. ALL BOULEVARDS TO BE RESTORED WITH 150MM MINIMUM OF TOPSOIL AND SOD TO THE SATISFACTION OF THE TOWN OF CALEDON PUBLIC WORKS DEPARTMENT.
8. THE MINIMUM PAVEMENT DESIGN FOR THE ASPHALT DRIVEWAY APRON WITHIN THE MUNICIPAL ROAD ALLOWANCE SHALL BE AS FOLLOWS:

   40MM HL3 ASPHALT

   50MM HL8 ASPHALT

   150MM GRANULAR 'A'

   300MM GRANULAR 'B'

   THE CONSULTANT SHOULD REVIEW THE ABOVE WITH RESPECT TO THE EXPECTED USAGE.
9. SERVICE CONNECTION BACKFILL TO BE DISCUSSED WITH THE TOWN OF CALEDON

ROADWORKS

1. SINGLE – STAGE CURB & GUTTER TO COMPLY WITH OPSD 600.040 COMPLETE WITH 2 – 15M BARS
2. TWO – STAGE CURB & GUTTER TO COMPLY WITH OPSD 600.070
3. SIDEWALKS TO COMPLY WITH OPSD–310.010 AND ARE TO BE 1.5 METRES WIDE ON A 150mm COMPACTED GRANULAR "A" BASE. MINIMUM THICKNESS AS FOLLOWS:

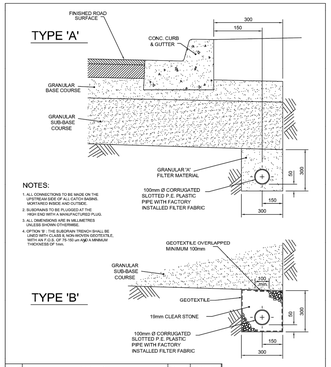
   NORMAL THICKNESS 125mm.

   RESIDENTIAL DRIVEWAY 150mm

   COMMERCIAUINDUSTRIAL DRIVEWAY 200mm (REINFORCEMENT AS PER OPSS IF REQUIRED)
4. NATIVE SUBGRADE SHALL HAVE A CROSSFALL OF 3 % AND THE MATERIAL SHALL BE APPROVED BY A SOILS CONSULTANT AND IS SUBJECT TO APPROVAL BY THE DIRECTOR OF PUBLIC WORKS AND ENGINEERING.
5. THE ROAD BASE SHALL INCORPORATE 100mm DIAMETER SUBDRAIN WITH FACTORY INSTALLED FILTER FABRIC AS PER TOWN OF CALEDON STANDARD No. 240.
6. ALL CURB RADII TO BE MINIMUM OF 10.0 METRES RESIDENTIAL AND 15.0 METRES INDUSTRIAL AT THE EDGE OF ASPHALT.
7. NATIVE SUBGRADE TO BE COMPACTED TO MINIMUM 95 % STANDARD PROCTOR MAXIMUM DRY DENSITY AND SHALL BE PROOF ROLLED.
8. GRADE AND CROSS FALL ADJUSTMENT OF MAINTENANCE HOLE AND CATCH BASIN FRAMES WILL BE MADE USING PRODUCTS SPECIFICALLY MANUFACTURED FOR THAT PURPOSE AS PER OPSD 704.010.
9. NON–COMPRESSIBLE BACK FILL WILL BE USED DURING REBUILDING, ADJUSTING, OR ANY OTHER APPLICABLE CATCH BASIN OR MAINTENANCE HOLE WORKS.
10. CURB AND SIDEWALK CONCRETE SHALL BE 30MPa AT 28 DAYS WITH 7% +/– 1.5% ENTRAINED AIR AND NOT LESS THAN 355 kg/m3 OF CEMENT (PER OPSS 315 AND 353).

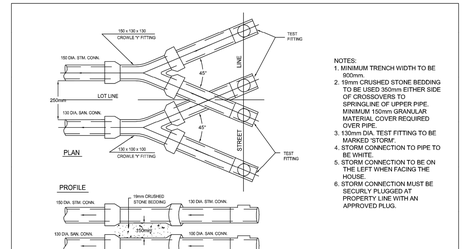
STORM SEWERS

1. STORM SEWER TO BE PROVIDED ON ALL ROADS WITH CURB AND GUTTER.
2. PLACE ALL CATCH BASIN LATERALS AT 2% GRADE UNLESS OTHERWISE NOTED. PIPE SIZE MINIMUM 250mm DIA. SINGLE, 300mm DIA. DOUBLE.
3. STORM SEWERS SHALL BE CONSTRUCTED WITH BEDDING AS PER OPSD 802.030 FOR RIGID PIPE OR OPSD 802.010 WITH GRANULAR 'A' FOR FLEXIBLE PIPE UNLESS APPROVED OTHERWISE BY THE DIRECTOR OF PUBLIC WORKS AND ENGINEERING.
4. MAINTENANCE HOLE TOPS (FRAMES) AND CATCHBASIN (FRAMES) ARE TO BE SET TO BASE COURSE ASPHALT AND THEN ADJUSTED TO FINAL GRADE WHEN THE TOP LIFT OF ASPHALT IS PLACED.
5. STORM SEWER TO BE LOCATED OFFSET 1.5m SOUTH OR WEST OF CENTRELINE UNLESS OTHERWISE SPECIFIED.
6. ALL CONNECTIONS TO THE STORM MAIN SHALL BE MADE WITH A STORM MANHOLE OR APPROVED FACTORY TEE CONNECTION AS PER OPSD 708.01 OR 708.03.
7. PIPE MATERIAL TO BE REINFORCED CONCRETE WITH A STRENGTH OF 50 N/m/mm CERTIFIED TO C.S.A. STANDARD A247.2–1982, CLASS 50–D (PREVIOUSLY C.S.A. STANDARD A257.2–1974 CLASS II) OR PVC CERTIFIED TO C.S.A. STANDARDS 182.2 AND 182.4 MAX. PVC PIPE DIA. IS 600mm BIG O BOSS 2000 POLYETHYLENE PIPE WITH GASKETED BELLAND SPIGOT JOINTS CERTIFIED C.S.A. 8182.6 FOR STORM SEWERS UP TO 900mm DIA. WHERE ONLY CONNECTION STD CATCHBASINS ARE CONSIDERED.
8. STORM SEWER TO BE MINIMUM 300mm DIA. WITH JOINTS CONFORMING TO C.S.A. STANDARD A257.3
9. ALL PIPE BEDDING MUST CONFORM TO OPSD MAXIMUM COVER TABLE. NO FLEXIBLE PIPE SEWERS WILL BE INSTALLED WITH A DEPTH COVER GREATER THAN 6m UNLESS SPECIFICALLY APPROVED BY THE DIRECTOR OF PUBLIC WORKS AND ENGINEERING.
10. ALL PIPE HANDLING INSTRUCTIONS MUST BE IN STRICT COMPLIANCE WITH MANUFACTURERS INSTALLATION GUIDES AND THE OCPA OR UNIBELL GUIDELINES.

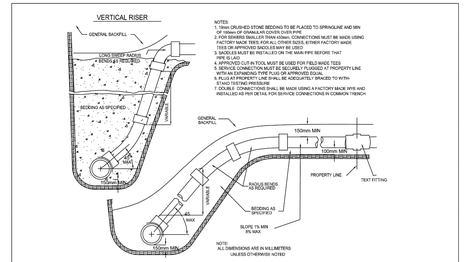


NO.	REVISION	APRD	DATE
1	STANDARD No. 240 NOW 219		JUNE 08

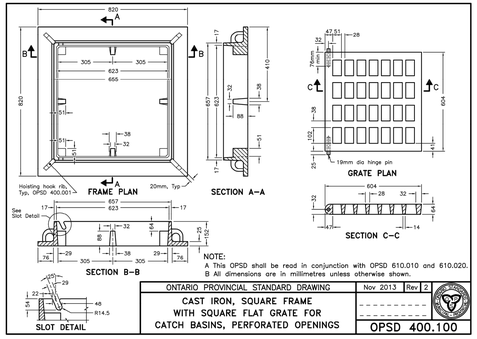
TOWN OF CALEDON	APRD: C.C.	DATE: 29/11/99	
TYPICAL 100mm SUBDRAIN DETAIL	DRAWN: BJM	SCALE: N.T.S.	STANDARD No. 219



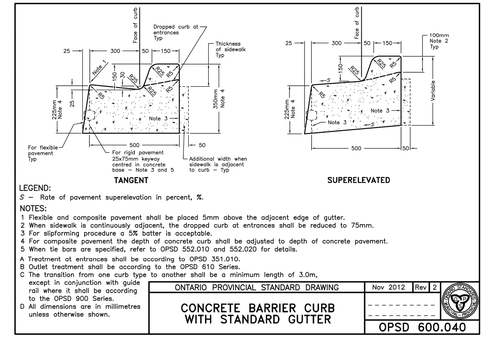
TOWN OF CALEDON					APRD: C.C.	DATE: DEC 1999
SERVICE CONNECTION IN COMMON TRENCH					DRAWN: BJM	SCALE: NTS
	1	STANDARD No. 705 NOW 502		JUNE 08	STANDARD No. 502	
	NO.	REVISION	APRD	DATE		



TOWN OF CALEDON					APRD: C.C.	DATE: DEC 1999
STORM SEWER SERVICE CONNECTION FOR FLEXIBLE PIPE					DRAWN: BJM	SCALE: NTS
	1	STANDARD No. 700 NOW 500		JUNE 08	STANDARD No. 500	
	NO.	REVISION	APRD	DATE		



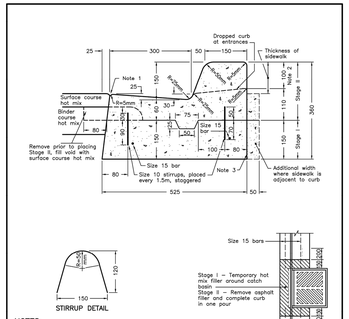
ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2013	Rev 2
CAST IRON, SQUARE FRAME WITH SQUARE FLAT GRATE FOR CATCH BASINS, PERFORATED OPENINGS		OPSD 400.100



LEGEND:
S – Rate of pavement superelevation in percent, %.

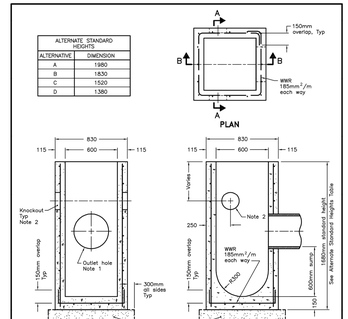
NOTES:
1 Flexible and composite pavement shall be placed 5mm above the adjacent edge of gutter.
2 When sidewalk is continuously adjacent, the dropped curb at entrances shall be reduced to 75mm.
3 For slipforming procedure a 5% batter is acceptable.
4 For composite pavement the depth of concrete curb shall be adjusted to depth of concrete pavement.
5 When tie bars are specified, refer to OPSD 552.010 and 552.020 for details.
A Treatment at entrances shall be according to OPSD 351.010.
B Outlet treatment shall be according to the OPSD 610 Series.
C The transition from one curb type to another shall be a minimum length of 3.0m, except in conjunction with guide rail where it shall be according to the OPSD 900 Series.
D All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2012	Rev 2
CONCRETE BARRIER CURB WITH STANDARD GUTTER		OPSD 600.040



NOTES:
1 Flexible and composite pavement shall be 5mm above the adjacent edge of gutter.
2 Where sidewalk is continuously adjacent, reduce the dropped curb at entrances to 75mm.
3 For slipforming procedure, a 5% batter is acceptable.
A Treatment at entrances shall conform with OPSD–351.01.
B Outlet treatment shall conform with OPSD–610 Series.
C The length of transition from one curb type to another shall be 3.0m, except in conjunction with guide rail, it shall conform to OPSD–900 Series.
D All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Date 1990 09 14	Rev
CONCRETE BARRIER CURB WITH STANDARD GUTTER TWO STAGE CONSTRUCTION	Date	
		OPSD – 600.07



NOTES:
1 Outlet hole size 525mm diameter maximum, location as required.
2 200mm diameter knockout to accommodate subdrain. Knockout shall be 60mm deep.
A Centre reinforcing in base slab and walls ±20mm.
B Granular backfill shall be placed to a minimum thickness of 300mm all around the catch basin.
C Frame, grate, and adjustment units shall be installed according to OPSD 704.010.
D Pipe support shall be according to OPSD 708.020.
E All dimensions are nominal.
F All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2014	Rev 3
PRECAST CONCRETE CATCH BASIN 600x600mm		OPSD 705.010

No.	DESCRIPTION	DATE	BY	APPROVED
4.				
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REVISIONS

APPROVED FOR CONSTRUCTION

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THIS APPROVAL IS SUBJECT TO THE FURTHER CERTIFICATION OF THE "AS CONSTRUCTED" WORKS BY A REGISTERED PROFESSIONAL ENGINEER OF THE PROVINCE OF ONTARIO

DATE: _____ APPROVED BY: _____

BENCH MARK:
ELEVATIONS ARE IN METRES AND ARE DERIVED FROM REGION OF PEEL BENCHMARK No. 25, ON THE NORTH FACE AT THE WEST CORNER OF A TWO STOREY CONCRETE BLOCK BUILDING LOCATED ON THE EAST SIDE OF AIRPORT ROAD APPROXIMATELY 0.32 KM NORTH OF THE NORTHERLY LIMIT OF CALEDON EAST.
ELEVATION = 310.640

Stantec Consulting Ltd.
675 COCHRANE DRIVE, WEST TOWER SUITE 300
MARKHAM, ONTARIO L3R 0B8
TELEPHONE: (905) 944–7777
FAX: (905) 474–9889

LICENSED PROFESSIONAL ENGINEER
S.A. KHAN
100085491
APR.26/19
PROVINCE OF ONTARIO

PROJECT NAME

PROPOSED TOWNHOUSE DEVELOPMENT
CHATEAUX OF CALEDON CORPORATION

Region of Peel

RZ–18–002C , SP–18–002C

THE CORPORATION OF THE
TOWN OF CALEDON

GENERAL NOTES & DETAILS

SCALE : N.T.S.		PROJECT No.	160622596
DESIGN BY: JL	CHECKED BY: SK	DRAWING No.	DET–1
DRAWN BY: JL	DATE: FEBRUARY 2019		

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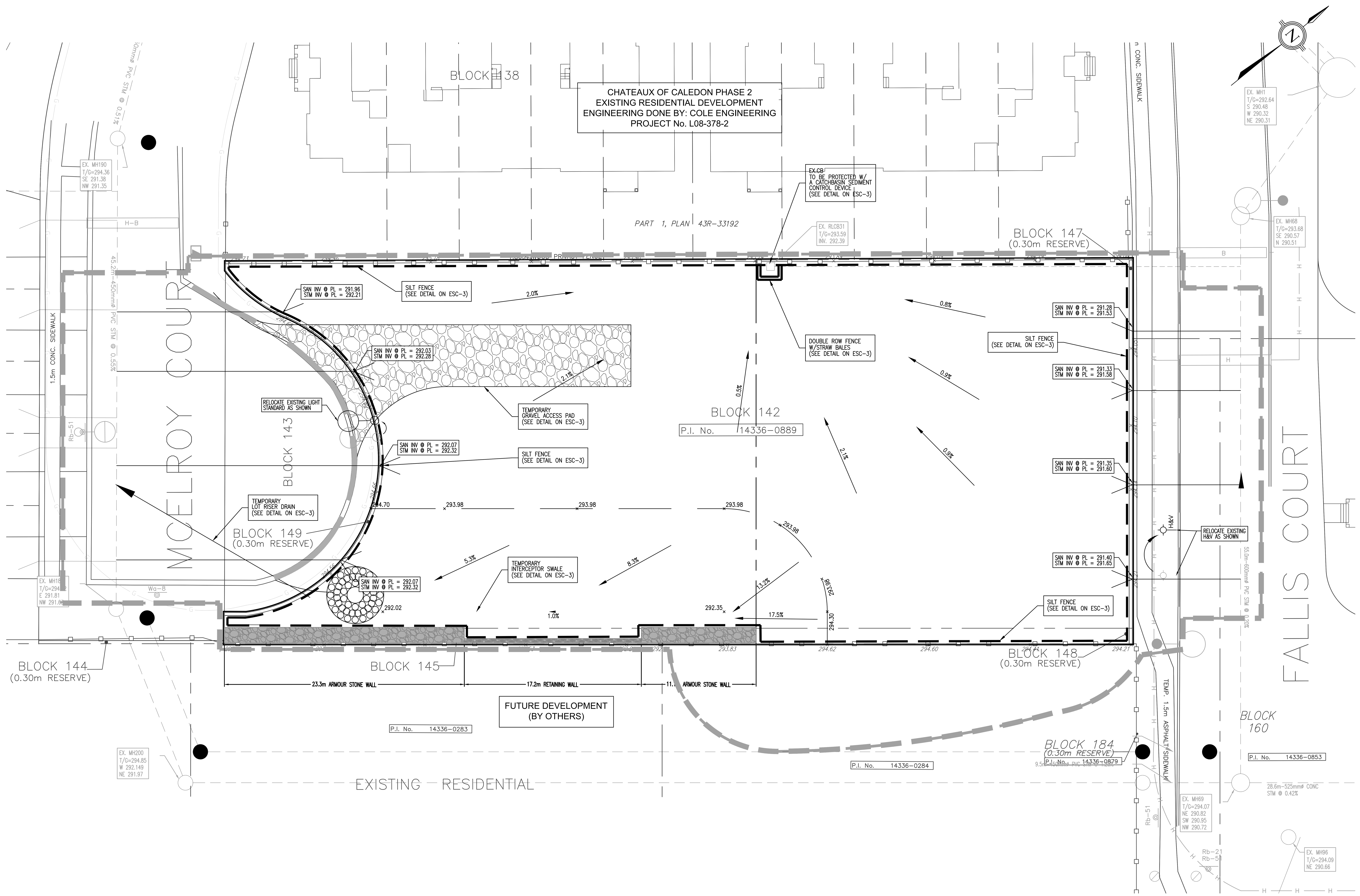

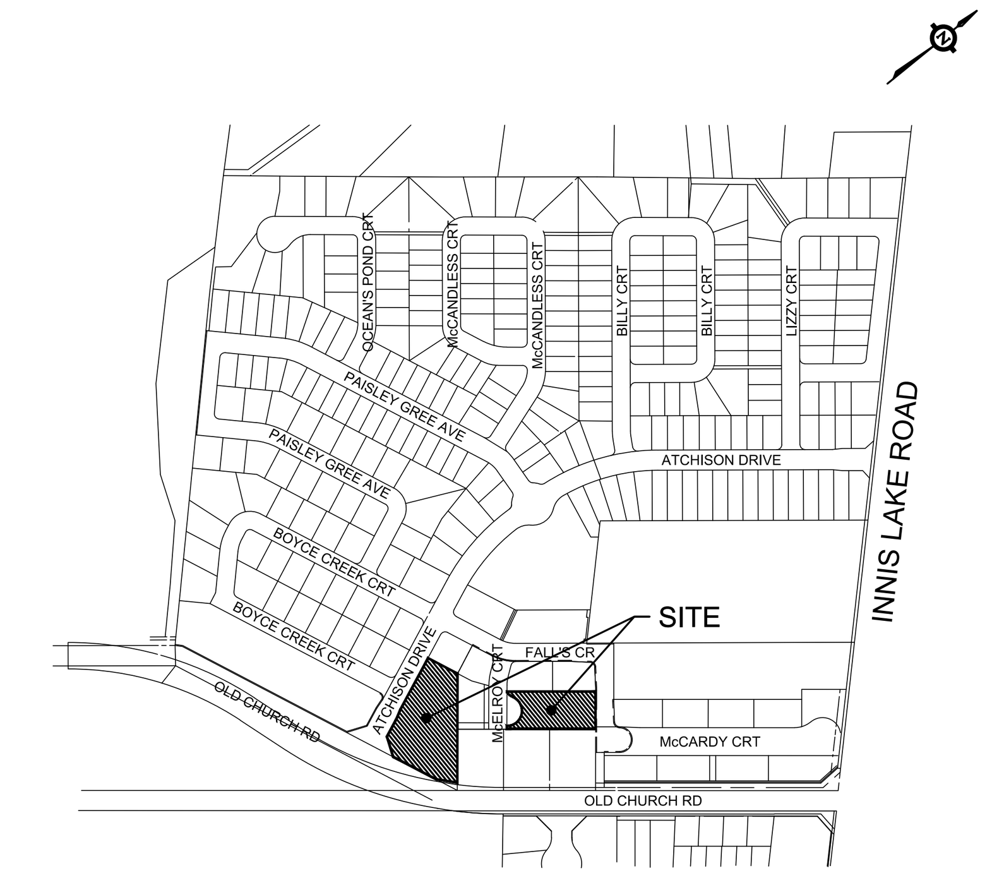

KEY PLAN SCALE 1:7500

LEGEND

- EXISTING SANITARY MANHOLE
- EXISTING STORM MANHOLE
- EXISTING SINGLE CATCHBASIN
- EXISTING DOUBLE CATCHBASIN
- EXISTING VALVE & BOX
- EXISTING VALVE & CHAMBER
- EXISTING HYDRANT & VALVE
- EXISTING WATER SERVICE BOX LOCATION
- EXISTING UTILITY LAMP
- 175.0 EXISTING CONTOUR AND ELEVATION
- 295.06 EXISTING SPOT ELEVATION
- 295.06 PROPOSED SPOT ELEVATION
- 2.0% PROPOSED SLOPES
- 2.0% EXISTING SLOPES
- OVERLAND FLOW
- SUBJECT SITE
- LIMIT OF CONSTRUCTION

No.	DESCRIPTION	DATE	BY	APPROVED
4.				
3.				
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REVISIONS

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DATE: ______ APPROVED BY: ______

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ELEVATION = 310.640

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PROJECT NAME
PROPOSED TOWNHOUSE DEVELOPMENT
CHATEAUX OF CALEDON CORPORATION

Region of Peel
RZ-18-002C , SP-18-002C

THE CORPORATION OF THE
TOWN OF CALEDON

EROSION & SEDIMENT CONTROL PLAN
STAGE 1: TOPSOIL STRIPPING

SCALE : 1:200		PROJECT No. 160622596
DESIGN BY: JL	CHECKED BY: SK	DRAWING No.
DRAWN BY: JL	DATE: FEBRUARY 2019	ESC-1

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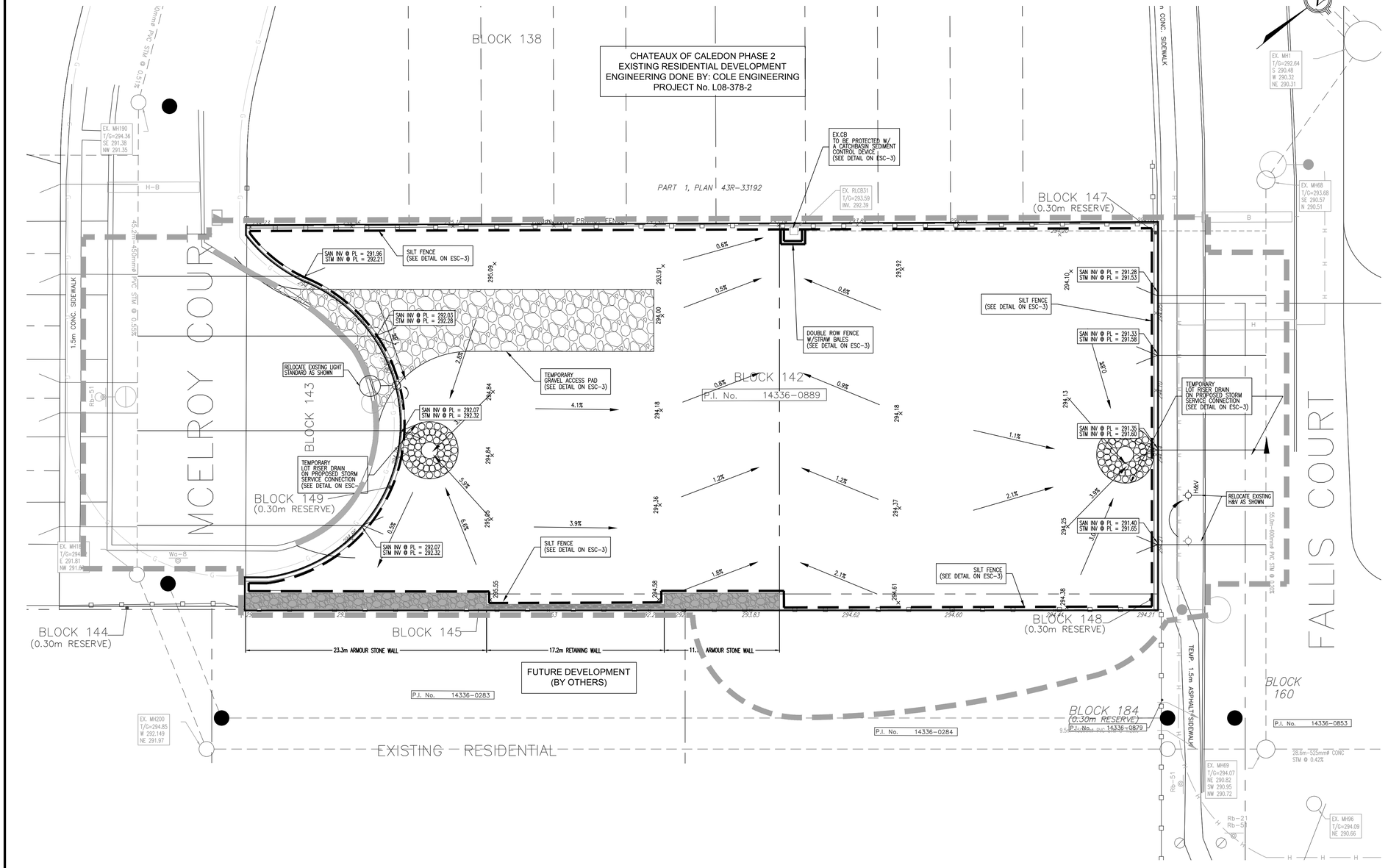

LEGEND

- EXISTING SANITARY MANHOLE
- EXISTING STORM MANHOLE
- EXISTING SINGLE CATCHBASIN
- EXISTING DOUBLE CATCHBASIN
- EXISTING VALVE & BOX
- EXISTING VALVE & CHAMBER
- EXISTING HYDRANT & VALVE
- EXISTING WATER SERVICE BOX LOCATION
- EXISTING UTILITY LAMP
- 175.0 EXISTING CONTOUR AND ELEVATION
- ×295.06 EXISTING SPOT ELEVATION
- ×295.06 PROPOSED SPOT ELEVATION
- 2.0% PROPOSED SLOPES
- 2.0% EXISTING SLOPES
- OVERLAND FLOW
- SUBJECT SITE
- LIMIT OF CONSTRUCTION

No.	DESCRIPTION	DATE	BY	APPROVED
4.				
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REVISIONS

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APR.26/19
PROVINCE OF ONTARIO

PROJECT NAME

PROPOSED TOWNHOUSE DEVELOPMENT
CHATEAUX OF CALEDON CORPORATION

Region of Peel
RZ-18-002C , SP-18-002C

THE CORPORATION OF THE
TOWN OF CALEDON

EROSION & SEDIMENT CONTROL PLAN
STAGE 2: POST SERVICING

SCALE : 1:200		PROJECT No. 160622596
DESIGN BY: JL	CHECKED BY: SK	DRAWING No. ESC-2
DRAWN BY: JL	DATE: FEBRUARY 2019	

GENERAL NOTES

1. ALL SEDIMENT CONTROLS AND TREE PROTECTION FACILITIES MUST BE IN PLACE PRIOR TO SITE DISTURBANCE.
2. ALL SEDIMENTATION CONTROL MEASURES TO BE INSPECTED REGULARLY AND MAINTAINED BY CONTRACTOR IN PROPER WORKING ORDER DURING SITE GRADING AND TO REMAIN IN PLACE UNTIL COMPLETION OF RESTORATION MEASURES.
3. UNLESS OTHERWISE NOTED SWALE DEPTHS ARE 0.35m MAX
4. DURING CONSTRUCTION, IF CONCENTRATED FLOWS ARE EXPERIENCED AT SITE OUTLET LOCATIONS, ROCK CHECK DAMS AND OR FILTREXX CHECK DAMS WILL BE PROVIDED TO PROTECT THE DOWNSTREAM LANDS FROM SEDIMENT TRANSPORT. IF DEEMED NECESSARY THE USE OF ADDITIONAL SEDIMENT BASIN(S) WILL BE ACCEPTABLE.
5. RESTORATIVE SEEDING AND PLANTING TO TAKE PLACE AS SOON AS POSSIBLE AFTER THE COMPLETION OF SITE GRADING.
6. SEDIMENT CONTROL MEASURES ADJACENT TO CONSTRUCTION AREAS MAY REQUIRE REMOVAL/RELOCATION IN ORDER TO COMPLETE SPECIFIC CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL ENSURE THAT ADEQUATE SEDIMENT CONTROL MEASURES ARE IN PLACE AT ALL TIMES.
7. FIELD REPRESENTATIVE TO MONITOR THE CONTRACTORS SEDIMENT AND EROSION CONTROL MEASURES TO ENSURE THAT THE MEASURES ARE INSTALLED, MAINTAINED AND FUNCTIONING AS INTENDED, AND WILL BE RESPONSIBLE FOR THE FOLLOWING:
   - UNDERSTAND THE EROSION/SEDIMENT CONTROL PLANS AND CONSTRUCTION METHODS.
   - RECOGNIZE THE EFFECTIVENESS OF EROSION/SEDIMENT CONTROL MEASURES AND COMMUNICATES NON-COMPLIANCE CONCERNS AND/OR RECOMMENDATIONS TO THE ENGINEER AND CVC/CITY.
   - COMPLETE A WALK-THROUGH OF THE CONSTRUCTION SITE WITH THE FOLLOWING (MINIMUM) FREQUENCY DURING CONSTRUCTION.
     - ON A WEEKLY BASIS (HIGH RISK AREAS WILL REQUIRE GREATER FREQUENCY)
     - PRIOR TO AND AFTER EVERY RAINFALL EVENT
     - DURING EXTENDED RAIN OR SNOW MELT PERIODS
     - MONTHLY INSPECTIONS DURING PERIODS OF INACTIVITY
   - COMPLETE WEEKLY INSPECTION REPORTS IN ACCORDANCE WITH APPENDIX F OF THE "EROSION AND SEDIMENT CONTROL GUIDELINE FOR URBAN CONSTRUCTION" MANUAL (DEC/06). A SAMPLE OF THIS REPORT HAS BEEN PROVIDED ON THIS DRAWING. WEEKLY INSPECTION REPORTS TO BE FORWARDED TO THE ENGINEER AND CVC/CITY ON A WEEKLY BASIS.

SEDIMENT TRAP MAINTENANCE SCHEDULE

1. SEDIMENT TRAPS ARE TO BE INSPECTED AFTER EVERY RAINFALL AND MAINTAINED AS DIRECTED BY THE CONSULTANT AND TO THE SATISFACTION OF THE CITY/CVC.
2. ANY SIGNS OF VISIBLE DAMAGE TO THE TRAP OUTLET SHALL BE REPAIRED IMMEDIATELY
3. TRASH AND DEBRIS SHALL BE REMOVED FROM WITHIN THE AREAS AND INLET CHAMBER (WHERE PRESENT).
4. THE TRAP SILTATION CONTROL FENCING AROUND TRAPS SHALL BE CLEANED PERIODICALLY AND REPLACED IF EXCESSIVE SEDIMENT BUILDUP IS EVIDENT.
5. THE SEDIMENT TRAP SIDES AND DITCH SIDESLOPES SHALL BE INSPECTED TO ENSURE THAT THEY HAVE NOT ERODED OR SETTLED. REMEDIAL ACTION SHALL BE TAKEN IMMEDIATELY TO RESHAPE AND STABILIZE THE SLOPES.
6. WHEN SEDIMENT ACCUMULATES TO HALF OF THE HEIGHT OF THE SEDIMENT BASIN DESIGN DEPTH, 0.5m (TRAP), THEN SEDIMENT REMOVAL IS REQUIRED. CARE MUST BE TAKEN TO AVOID DAMAGING THE OUTLET AND INLET DURING THIS MAINTENANCE OPERATION. DISPOSAL OF THE SEDIMENT SHALL BE TO A CONTROLLED AREA AND STABILIZED (VEGETATED).
7. ALL WORKS PERFORMED SHALL BE TO THE SATISFACTION OF THE CITY/CVC.

SPILL RESPONSE PLAN

1. A SPILL KIT SHALL BE KEPT ON SITE DURING CONSTRUCTION. THE SPILL KIT SHOULD INCLUDE, FOR EXAMPLE: SORBENT MATERIAL (E.G., SORBENT PADS, SORB ALL, VERMICULITE), SHOVEL, PORTABLE BROOMS, GEOTEXTILE FABRIC, SAND BAGS, SEDIMENT FENCING, PLASTIC BAGS, PPE (E.G., GLOVES, BOOTS, RAIN GEAR), BUCKETS, STAKES, TARPAULINS. IN THE CASE OF A SPILL THE MOECC SHOULD BE CALLED AT 1800-268-8060.
2. DEBRIS, INCLUDING LARGE PIECES OF WOOD, GARBAGE, DEBRIS, EXCESS FILL, ETC., RESULTING FROM THE CONSTRUCTION SHALL BE DISPOSED OF AT AN APPROVED SITE(S) WHICH IS OUT OF THE FLOODPLAIN AREA AND ADJACENT SLOPES OR APPROVED LANDFILL SITES.
3. AREAS WHERE VEGETATION HAS BEEN REDUCED AS A RESULT OF CONSTRUCTION ACTIVITIES MUST BE REVEGETATED WITH INDIGENOUS SPECIES AND HYDROSEEDED AS SOON AS BACKFILLING AND COMPACTION IS COMPLETED.
4. CLEANING AND REFUELING OF EQUIPMENT IS NOT PERMITTED WITHIN 30M OF ANY WATERCOURSE.

RESTORATION

WITHIN 30 DAYS AFTER AREA GRADING IS COMPLETE, THE DISTURBED AREAS INCLUDING TOPSOIL STOCKPILES AND TEMPORARY DRAINAGE SWALES SHALL BE RESTORED WITH GRASS VEGETATION USING HYDROSEED OR SODDING. THE ONLY EXCEPTION TO THIS REQUIREMENT WILL BE LOT OR BLOCK AREAS WHICH ARE UNDER AN ACTIVE BUILDING PERMIT APPLICATION. ALL HYDROSEEDING FOR RESTORATION SHALL BE COMPLETED PRIOR TO MID SEPTEMBER OR AT THE DISCRETION OF THE COMMISSIONER. THE METHOD OD HYDROSEEDING SHALL BE APPROVED BY THE COMMISSIONER. AREAS WHICH DO NOT ESTABLISH COVER SHALL BE HYDROSEEDED AGAIN AT THE DISCRETION OF THE COMMISSIONER.

DUST CONTROL MEASURES

A DUST CONTROL PLAN WILL INCLUDE:
1. IDENTIFICATION OF ALL POTENTIAL DUST SOURCES;
2. A DESCRIPTION OF THE DUST CONTROL METHOD(S) TO BE USED FOR EACH SOURCE;
3. A SCHEDULE, RATE OF APPLICATION, CALCULATIONS OR SOME OTHER MEANS OF IDENTIFYING HOW OFTEN, HOW MUCH OR WHEN THE CONTROL METHOD IS TO BE USED;
4. PROVISIONS FOR MONITORING AND RECORD KEEPING;
5. A BACKUP PLAN IN CASE THE FIRST CONTROL PLAN DOES NOT WORK OR IS INSUFFICIENT;

PRE-GRADING PLANNING:
1. TOPSOIL STRIPPING AND EARTHWORKS TO BE TIMED TO COINCIDE WITH EACH MUNICIPAL SERVICING AND/OR CONSTRUCTION PHASE; OR
2. STRIP TOPSOIL AND GRADE ENTIRE PROJECT AND APPLY VEGETATION GROUND COVER TO GRADED OR TOPSOIL STRIPPED AREAS WHERE CONSTRUCTION PHASE BEGINS MORE THAN 90 DAYS AFTER GRADING OR TOPSOIL STRIPPING OPERATIONS END.

WATERING (POST-GRADING):
1. WITHIN ACTIVE TOPSOIL STRIPPING, EARTH MOVING OR UNDERGROUND/ABOVEGROUND MUNICIPAL SERVICING AREAS, WATER TO BE APPLIED AT SUFFICIENT FREQUENCY AND QUANTITY TO PREVENT VISIBLE EMISSIONS FROM EXTENDING MORE THAN 30m FROM POINT OF ORIGIN.

TOPSOIL STOCKPILES:
1. CONFINE LOAD IN/OUT PROCEDURES TO DOWNWIND SIDE OF THE MATERIAL. TOPSOIL PILE TO BE LOCATED DOWNWIND OF EXISTING RESIDENTIAL AREAS.
2. APPLY WATER TO HAUL ROADS AND STOCKPILE BY WAY OF WATER TRUCK.
3. GRADE AND VEGETATE TOPSOIL STOCKPILE TO PREVENT FUTURE WIND EROSION.

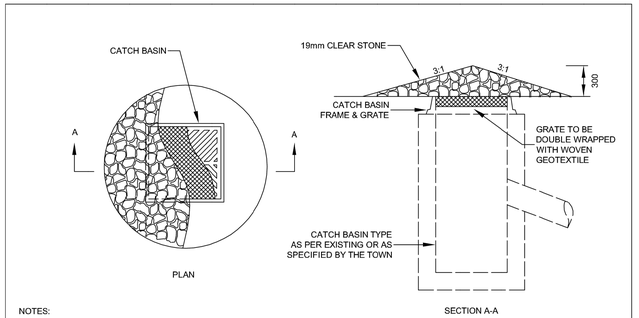
WIND FENCING:
1. INSTALL 1.0m TO 1.5m HIGH BARRIERS WITH 50% OR LESS POROSITY LOCATED ADJACENT TO ROADWAYS OR URBAN AREAS TO REDUCE THE AMOUNT OF WINDBLOWN MATERIAL LEAVING THE SITE.

REDUCE VEHICLE SPEED:
1. LIMIT VEHICLE SPEED TO 25km/hr MAXIMUM. MAY NEED TO BE USED IN CONJUNCTION WITH WATERING TO PREVENT VISIBLE DUST EMISSIONS.

MINIMIZE DISRUPTED SURFACE AREAS:
1. TO DISTURB ONLY THOSE AREAS ABSOLUTELY REQUIRED. VEGETATION LEFT IN PLACE DURING SITE WORK REDUCES THE AREA SUBJECT TO WIND EROSION.

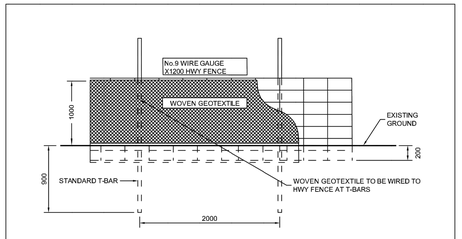
RESTRICT ACTIVITIES DURING HIGH WIND PERIODS:
1. RESCHEDULE WORK AROUND WINDY DAYS. THE HIGH VISIBILITY OF CERTAIN WORKS AND THE CLOSE PROXIMITY AND POPULATION IMPACTED SHOULD BE TAKEN INTO CONSIDERATION WHEN SCHEDULING DUST-PRODUCING WORK.

ROAD CLEANING:
1. SPILLAGE, EROSION OR MATERIAL "TRACKED OUT" ON A ROAD TO BE CLEANED USING MECHANICAL STREET SWEEPERS OR FLUSHER TRUCK BY AT LEAST THE END OF THE WORK DAY AND IMMEDIATELY IF IT EXTENDS MORE THAN 15 METRES ALONG A PAVED PUBLIC ROADWAY.



NOTES:
1. CATCH BASIN LIFT HOLES TO BE PARGED WITH CONCRETE.
2. WOVEN GEOTEXTILE TO HAVE A MINMUM EQUIVALENT OPENING SIZE OF 0.15mm AND A MAXIMUM OPENING SIZE OF 0.25mm.

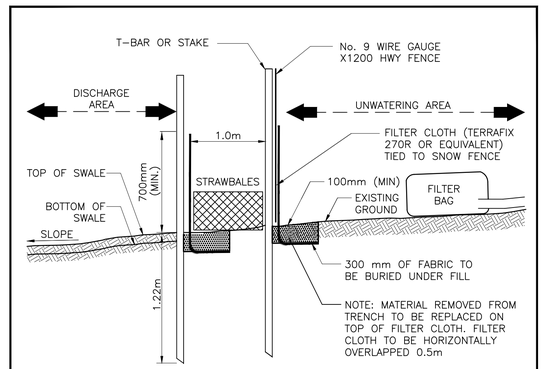
TOWN OF CALEDON						
CATCH BASIN SEDIMENT BARRIER					APR'D: C.C.	DATE: APRIL 00
					DRAWN: BJM	SCALE: NTS
	1	STANDARD No. 320.02 NOW 303		JUNE 08	STANDARD No. 303	
	NO.	REVISION	APR'D	DATE		



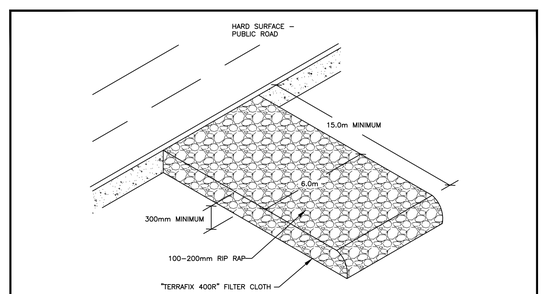
NOTES:
1. WOVEN GEOTEXTILE TO HAVE A WEAVE DENSITY OF 270R OR EQUIVALENT
2. WOVEN GEOTEXTILE TO HAVE A HORIZONTAL OVERLAP OF 1000mm AT JOINTS.
3. END RUNS SHALL BE TURNED UPSTREAM AT 30°

NO.	REVISION	APR'D	DATE
2	NAME CHANGED, STANDARD No. 325.01 NOW 304		JUNE 08
1	SUPPORT FENCING CHANGED TO HWY FENCE		Oct 02

TOWN OF CALEDON		
SEDIMENT CONTROL FENCE	APR'D: C.C.	DATE: APRIL 2000
	DRAWN: BJM	SCALE: N.T.S.
	STANDARD No. 304	

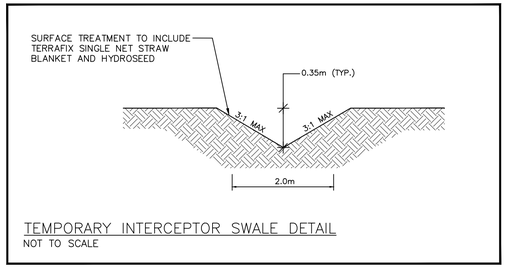


DOUBLE ROW FENCE WITH STRAW BALES DETAIL
NOT TO SCALE

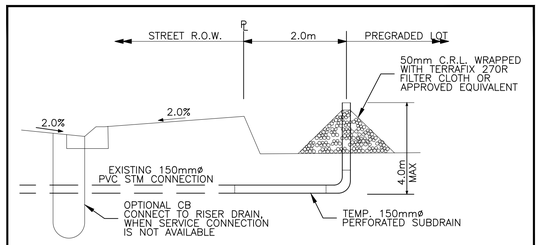


TEMPORARY GRAVEL ACCESS PAD
NOT TO SCALE

NOTE:
UPON OBSERVATION OF CONTINUOUS MUD TRACKING OCCURRING ONTO ADJACENT STREET, THE STONE MAT IS TO BE FULLY REPLACED.



TEMPORARY INTERCEPTOR SWALE DETAIL
NOT TO SCALE



TEMPORARY LOT RISER DRAIN W/FILTER SOCK SEDIMENTATION
NOT TO SCALE

No.	DESCRIPTION	DATE	BY	APPROVED
4.				
3.				
2.				
1.				

REVISIONS

APPROVED FOR CONSTRUCTION

THIS APPROVAL CONSTITUTES A GENERAL REVIEW AND DOES NOT CERTIFY DIMENSIONAL ACCURACY.

THIS APPROVAL IS SUBJECT TO THE FURTHER CERTIFICATION OF THE "AS CONSTRUCTED" WORKS BY A REGISTERED PROFESSIONAL ENGINEER OF THE PROVINCE OF ONTARIO

DATE: _____ APPROVED BY: _____

BENCH MARK:
ELEVATIONS ARE IN METRES AND ARE DERIVED FROM REGION OF PEEL BENCHMARK No. 25. ON THE NORTH FACE AT THE WEST CORNER OF A TWO STOREY CONCRETE BLOCK BUILDING LOCATED ON THE EAST SIDE OF AIRPORT ROAD APPROXIMATELY 0.32 KM NORTH OF THE NORTHERLY LIMIT OF CALEDON EAST.
ELEVATION = 310.640

Stantec Consulting Ltd.
675 COCHRANE DRIVE, WEST TOWER SUITE 300
MARKHAM, ONTARIO L3R 0B8
TELEPHONE: (905) 944-7777
FAX: (905) 474-9889

LICENSED PROFESSIONAL ENGINEER
S.A. KHAN
100085491
APR.26/19
PROVINCE OF ONTARIO

PROJECT NAME
PROPOSED TOWNHOUSE DEVELOPMENT
CHATEAUX OF CALEDON CORPORATION

Region of Peel
RZ-18-002C , SP-18-002C

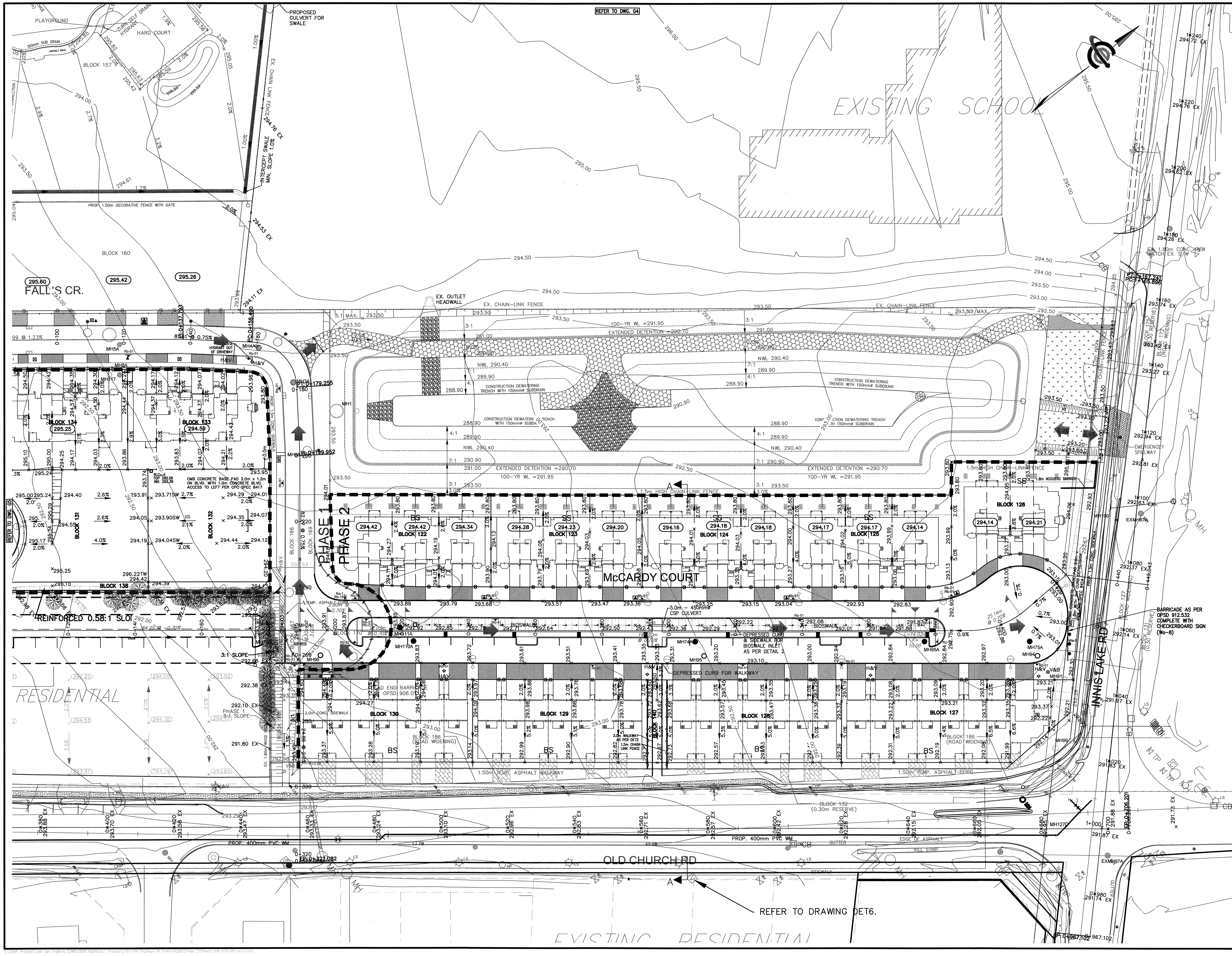
THE CORPORATION OF THE
TOWN OF CALEDON

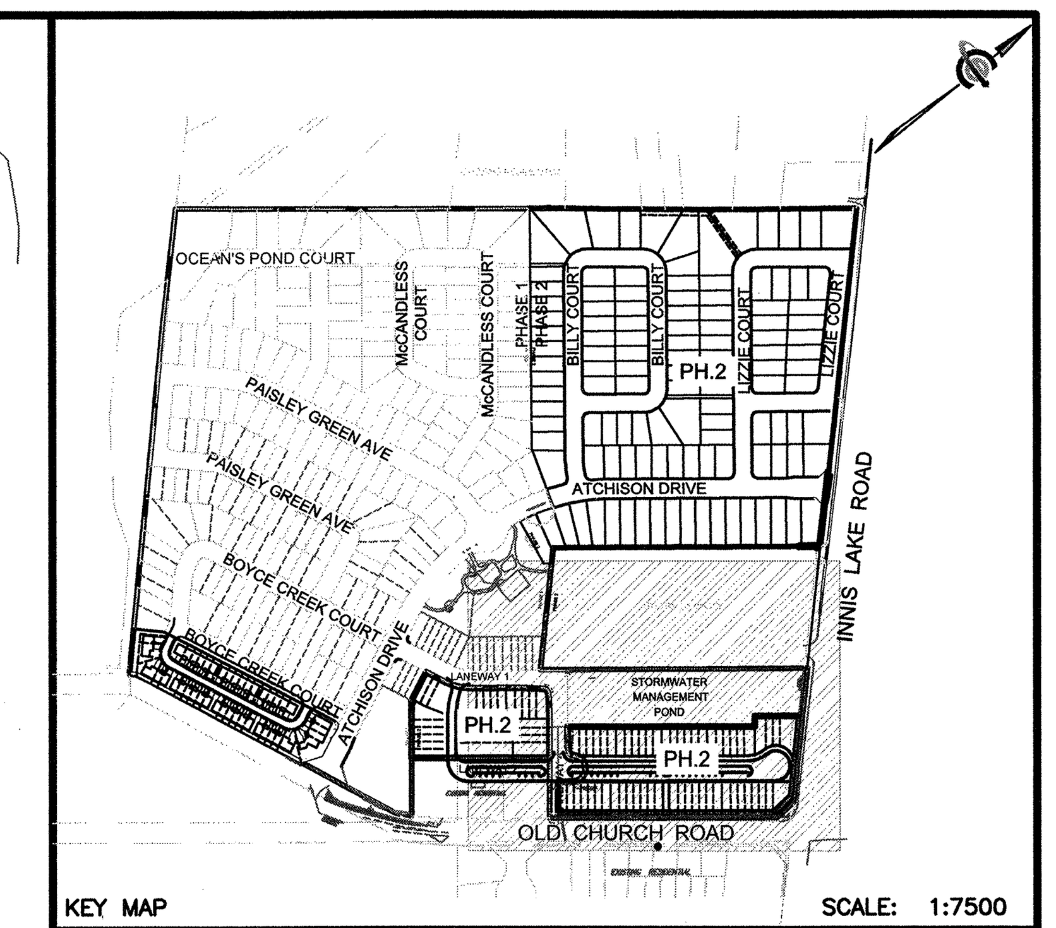
EROSION & SEDIMENT CONTROL DETAILS

SCALE : N/A		PROJECT No.	160622596
DESIGN BY: JL	CHECKED BY: SK	DRAWING No.	ESC-3
DRAWN BY: JL	DATE: FEBRUARY 2019		

File \\cd225-f01\work_group\05606\Active\160622596\Drawing\sheet_files\160622596-TH_C-04-ESC.dwg - Revised by <Georges, Desley> - Thu, Apr 25, 2019 , 9:05 PM

APPENDIX C: EXISTING INFORMATION





KEY MAP SCALE: 1:7500

LEGEND

- EXISTING CONTOUR
- EXISTING GRADE ×265.15 EX
- PROPOSED GRADE ×265.15
- PROPOSED APRON ELEVATION (297.23)
- EXISTING STORM MANHOLE
- EXISTING SANITARY MANHOLE
- EXISTING SINGLE CATCH BASIN / DOUBLE CATCH BASIN
- EXISTING DITCH INLET CATCH BASIN
- PROPOSED STORM MANHOLE
- PROPOSED SANITARY MANHOLE
- PROPOSED SINGLE CATCHBASIN / DOUBLE CATCHBASIN (ICD 'B')
- PROPOSED DITCH INLET CATCH BASIN
- PROPOSED WATER VALVE/ CURB STOP
- PROPOSED FIRE HYDRANT
- PROPOSED WATERMAIN CROSS / TEE
- PROPOSED WATERMAIN CAP / REDUCER
- PROPOSED DITCH OR SWALE
- PROPERTY LINE
- EASEMENT LINE
- PROPOSED FRONT-SPLIT DRAINAGE LOT TYPE FS
- PROPOSED SIDE-SPLIT DRAINAGE LOT TYPE SS
- PROPOSED BACK-SPLIT DRAINAGE LOT TYPE BS
- PROPOSED REAR WALKOUT BASEMENT LOT TYPE W/O
- PROPOSED DRIVEWAY
- OVERLAND FLOW ARROW
- ENGINEERED FILL LOT
- DENOTES LOTS WITH SUMP PUMP (SP)
- PHASE LINE
- INFILTRATION TRENCH
- SOAKAWAY PITS

NOTE!

ALL PROPOSED FENCING IS TO BE LOCATED ON PRIVATE PROPERTY

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
1.	AR	OCT. 5, 11	ISSUED FOR 1ST SERVICING SUBMISSION		
2.	AR	DEC. 5, 11	ISSUED FOR 2ND SERVICING SUBMISSION		
3.	AR	DEC. 19, 11	ISSUED FOR 3RD SERVICING SUBMISSION – REGION OF PEEL		
4.	AR	JAN. 16, 12	ISSUED FOR PRE-SERVICING		
5.	AR	JUL. 10, 12	TOWNHOUSE BLOCK SUBMISSION		
6.	AR	JUL. 25, 12	TOWNHOUSE BLOCK APPROVAL		

APPROVED FOR CONSTRUCTION

THIS APPROVAL CONSTITUTES A GENERAL REVIEW AND DOES NOT CERTIFY DIMENSIONAL ACCURACY.

THIS APPROVAL IS SUBJECT TO THE FURTHER CERTIFICATION OF THE "AS CONSTRUCTED" WORKS BY A REGISTERED PROFESSIONAL ENGINEER OF THE PROVINCE OF ONTARIO.

DATE: Aug 1, 2012 APPROVED BY: M. Hall

BENCH MARK:
ELEVATIONS ARE IN METRES AND ARE DERIVED FROM REGION OF PEEL BENCHMARK No. 25. ON THE NORTH FACE AT THE WEST CORNER OF A TWO STOREY CONCRETE BLOCK BUILDING LOCATED ON THE EAST SIDE OF AIRPORT ROAD APPROXIMATELY 0.32 KM NORTH OF THE NORTHERLY LIMIT OF CALEDON EAST.
ELEVATION = 310.640

CONSULTANT

COLE ENGINEERING
70 VALLEYWOOD DRIVE, MARKHAM, ON L3R 4T5
T:416.987.6161 / 905.940.6161 F:905.940.2064

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LICENSED PROFESSIONAL ENGINEER A.M. BARBOSA RIBEIRO July 25, 2012 PROVINCE OF ONTARIO

PROJECT NAME
PROPOSED RESIDENTIAL DEVELOPMENT
CHATEAUX OF CALEDON PHASE 2
PART OF LOT 21, CONCESSION 1 (ALBION)

Region of Peel

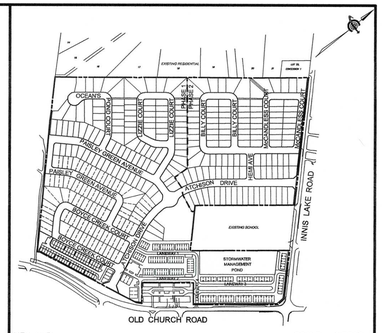
THE CORPORATION OF THE
TOWN OF CALEDON

21T-07003Ca

GRADING PLAN (NORTH COMMERCIAL QUADRANT)

SCALE: 1:500		PROJECT No. L08-378-2	
DESIGNED BY: AC	DRAWN BY: AL	DRAWNING No. GR6	
CHECKED BY: AR	DATE: JUL. 22 2011		

S:\2008 Projects\Land Dev Projects (L08)\2008 Subdivision Projects\L08-378 Chateaux of Caledon\CAD\Phase 2\Sheets\L08-378-GR-rev-1.dwg



KEY MAP SCALE: 1:7500

LEGEND

- EXISTING CONTOUR — 475
- EXISTING GRADE — ×265.15 EX
- PROPOSED GRADE — ×265.15
- EXISTING STORM MANHOLE
- EXISTING SANITARY MANHOLE
- EXISTING SINGLE CATCH BASIN / DOUBLE CATCH BASIN
- EXISTING DITCH INLET CATCH BASIN
- PROPOSED SANITARY MANHOLE
- PROPOSED SANITARY SEWER
- PROPOSED SANITARY SERVICE
- PROPOSED SANITARY DRAINAGE AREA
- PROPERTY LINE
- PROPERTY PHASE LINE

SANITARY DRAINAGE AREA NUMBER / DRAINAGE AREA (ha) — A10a 0.50ha
POPULATION — 0

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
1.	SG	AUG 7, 09	ISSUED FOR FIRST SUBMISSION REVIEW TO TOWN, REGION & TRCA		
2.	SG	FEB 17, 10	ISSUED FOR SECOND SUBMISSION REVIEW TO TOWN, REGION & TRCA		
3.	AR	AUG 06, 10	ISSUED FOR THIRD SUBMISSION REVIEW PHASE 1 APPROVAL		
4.	AR	SEPT 2, 10	PRE-SERVICING		

APPROVED FOR CONSTRUCTION

THIS APPROVAL CONSTITUTES A GENERAL REVIEW AND DOES NOT CERTIFY DIMENSIONAL ACCURACY.

THIS APPROVAL IS SUBJECT TO THE FURTHER CERTIFICATION OF THE "AS CONSTRUCTED" WORKS BY A REGISTERED PROFESSIONAL ENGINEER OF THE PROVINCE OF ONTARIO.

DATE: Sept 15/2010 APPROVED BY:

BENCH MARK:
ELEVATIONS ARE IN METRES AND ARE DERIVED FROM REGION OF PEEL BENCHMARK No. 25. ON THE NORTH FACE AT THE WEST CORNER OF A TWO STOREY CONCRETE BLOCK BUILDING LOCATED ON THE EAST SIDE OF AIRPORT ROAD APPROXIMATELY 0.32 KM NORTH OF THE NORTHERLY LIMIT OF CALEDON EAST.
ELEVATION = 310.640

CONSULTANT

COLE ENGINEERING
70 VALLEYWOOD DRIVE, MARKHAM, ON L3R 4T5
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LICENSED PROFESSIONAL ENGINEER
A.M. BARBOSA RIBEIRO
Sept 14, 2010
PROVINCE OF ONTARIO

PROJECT NAME
PROPOSED RESIDENTIAL DEVELOPMENT
CHATEAUX OF CALEDON PHASE 1
PART OF LOT 21, CONCESSION 1 (ALBION)

Region of Peel

THE CORPORATION OF THE
TOWN OF CALEDON

21T-07003C

SANITARY DRAINAGE AREA PLAN

SCALE:	1:1250		PROJECT No. L08-378
DESIGNED BY:	DH	DRAWN BY: JM	DRAWNING No. SAN1
CHECKED BY:	AR	DATE: AUG. 10 2010	

COLE ENGINEERING
70 Valleywood, Markham, ON L3R 4T5
Phone: (905) 940-6161, Fax: (905)940-2064

Region of Peel
Sanitary Design Sheet

Peaking Factor K = $\frac{1+\frac{14}{4+P^{1/2}}}{}$ P=Population in Thousands

Average Flow = 365 l/ca/day PHASE 2
Infiltration = 0.2 l/s/ha

Minimum Velocity= 0.75 m/s
Maximum Velocity= 3.5 m/s

Project: Chateaux of Caledon
Project No: L08-378
Date: 13-Sep-11

Designed by: AC
Checked by: AR

STREET	MANHOLE FROM	MANHOLE TO	A AREA (ha)	TOTAL AREA (ha)	POPULATION PER	SECTION POPULATION	ACCUM. POPULATION	Peaking Factor K	Pop. Flow (m3/s)	Infil. Flow (m3/s)	Peak FLOW (m3/s)	SANITARY SEWER DESIGN INFORMATION LENGTH (m)	SLOPE (%)	PIPE DIAMETER (mm)	FULL FLOW CAPACITY (m3/s)	FULL FLOW VELOCITY (m/s)
LIZZIE COURT	19A	18A	0.81	0.81	37	37	37	3.8	0.0006	0.0002	0.0008	80.6	5.0	250	0.133	2.70
LIZZIE COURT	18A	17A	0.35	1.16	20	20	57	3.8	0.0009	0.0002	0.0011	54.0	1.5	250	0.072	1.47
LIZZIE COURT	25A	24A	0.94	0.94	41	41	41	3.8	0.0007	0.0002	0.0008	69.9	#REF!	250	#REF!	#REF!
LIZZIE COURT	24A	23A	0.04	0.98	8	8	49	3.8	0.0008	0.0002	0.0010	17.5	3.0	250	0.103	2.11
LIZZIE COURT	23A	22A	0.35	1.33	15	15	64	3.8	0.0010	0.0003	0.0013	79.7	5.0	250	0.133	2.70
LIZZIE COURT	22A	21A	0.18	1.51	12	12	76	3.8	0.0012	0.0003	0.0015	49.2	1.2	250	0.064	1.30
LIZZIE COURT	21A	20A	0.02	1.53	0	0	76	3.8	0.0012	0.0003	0.0015	11.7	1.1	250	0.063	1.28
LIZZIE COURT	20A	17A	0.39	1.92	19	19	95	3.8	0.0015	0.0004	0.0019	76.5	0.8	250	0.051	1.05
LIZZIE COURT	17A	73A	0.30	3.38	15	15	167	3.8	0.0027	0.0007	0.0034	83.2	0.8	250	0.052	1.06
BILLY COURT	80A	79A	0.63	0.63	25	25	25	3.8	0.0004	0.0001	0.0005	56.1	2.2	250	0.088	1.79
BILLY COURT	79A	33A	0.15	0.78	15	15	40	3.8	0.0006	0.0002	0.0008	17.1	4.5	250	0.126	2.57
BILLY COURT	33A	32A	0.53	1.31	23	23	63	3.8	0.0010	0.0003	0.0013	55.4	4.6	250	0.127	2.59
BILLY COURT	32A	31A	0.58	1.89	32	32	95	3.8	0.0015	0.0004	0.0019	69.9	0.5	250	0.043	0.87
BILLY COURT	31A	30A	0.17	2.06	9	9	104	3.8	0.0017	0.0004	0.0021	15.9	0.6	250	0.047	0.96
BILLY COURT	30A	27A	0.43	2.49	21	21	125	3.8	0.0020	0.0005	0.0025	75.9	1.1	250	0.062	1.26
BILLY COURT	29A	28A	0.80	0.80	43	43	43	3.8	0.0007	0.0002	0.0009	86.2	4.9	250	0.132	2.69
BILLY COURT	28A	27A	0.46	1.26	20	20	63	3.8	0.0010	0.0003	0.0013	53.3	1.8	250	0.080	1.63
BILLY COURT	27A	26A	0.25	4.00	12	12	200	3.8	0.0032	0.0008	0.0040	59.9	0.5	250	0.041	0.83
BILLY COURT	26A	14A	0.00	4.00	0	0	200	3.8	0.0032	0.0008	0.0040	26.3	0.5	250	0.040	0.82
ATCHISON DRIVE	14A	15A	0.70	4.70	35	35	235	3.8	0.0038	0.0009	0.0047	73.4	0.6	250	0.044	0.90
ATCHISON DRIVE	15A	73A	0.91	5.61	45	45	280	3.8	0.0045	0.0011	0.0056	90.3	0.5	250	0.041	0.84
ATCHISON DRIVE	73A	16A	0.83	9.82	42	42	489	3.8	0.0079	0.0020	0.0098	87.3	0.5	250	0.042	0.86
INNIS LAKE ROAD	16A	87A	0.19	10.01	0	0	489	3.8	0.0079	0.0020	0.0099	12.1	1.0	250	0.059	1.21
INNIS LAKE ROAD	87A	86A	0.00	10.01	0	0	489	3.8	0.0079	0.0020	0.0099	72.9	0.5	250	0.041	0.84
INNIS LAKE ROAD	86A	EX203A	0.23	10.24	0	0	489	3.8	0.0079	0.0020	0.0099	79.4	0.5	250	0.043	0.87
OCEAN'S POND COURT	53A	52A	1.17	1.17	58	58	58	3.8	0.0009	0.0002	0.0012	78.6	1.0	250	0.059	1.21
OCEAN'S POND COURT	52A	51A	0.18	1.35	9	9	67	3.8	0.0011	0.0003	0.0013	16.7	1.0	250	0.059	1.21
OCEAN'S POND COURT	51A	50A	0.72	2.07	36	36	103	3.8	0.0017	0.0004	0.0021	97.0	2.0	250	0.084	1.71

COLE ENGINEERING
70 Valleywood, Markham, ON L3R 4T5
Phone: (905) 940-6161, Fax: (905)940-2064

Region of Peel
Sanitary Design Sheet

Peaking Factor K = $\frac{1+\frac{14}{4+P^{1/2}}}{}$ P=Population in Thousands

Average Flow = 365 l/ca/day PHASE 2
Infiltration = 0.2 l/s/ha

Minimum Velocity= 0.75 m/s
Maximum Velocity= 3.5 m/s

Project: Chateaux of Caledon
Project No: L08-378
Date: 13-Sep-11

Designed by: AC
Checked by: AR

STREET	MANHOLE FROM	MANHOLE TO	A AREA (ha)	TOTAL AREA (ha)	POPULATION PER	SECTION POPULATION	ACCUM. POPULATION	Peaking Factor K	Pop. Flow (m3/s)	Infil. Flow (m3/s)	Peak FLOW (m3/s)	SANITARY SEWER DESIGN INFORMATION LENGTH (m)	SLOPE (%)	PIPE DIAMETER (mm)	FULL FLOW CAPACITY (m3/s)	FULL FLOW VELOCITY (m/s)
OCEAN'S POND COURT	50A	37A	0.17	2.24	8	8	111	3.8	0.0018	0.0004	0.0022	49.5	0.8	250	0.051	1.05
McCANDLESS COURT	49A	48A	0.98	0.98	49	49	49	3.8	0.0008	0.0002	0.0010	95.0	4.3	250	0.124	2.52
McCANDLESS COURT	48A	47A	0.17	1.15	9	9	58	3.8	0.0009	0.0002	0.0012	8.6	3.0	250	0.103	2.10
McCANDLESS COURT	47A	46A	0.17	1.32	8	8	66	3.8	0.0011	0.0003	0.0013	41.5	1.0	250	0.059	1.21
McCANDLESS COURT	46A	41A	0.13	1.45	6	6	72	3.8	0.0012	0.0003	0.0014	45.9	0.5	250	0.042	0.86
McCANDLESS COURT	45A	44A	0.62	0.62	31	31	31	3.8	0.0005	0.0001	0.0006	57.7	1.5	250	0.073	1.48
McCANDLESS COURT	44A	43A	0.18	0.80	9	9	40	3.8	0.0006	0.0002	0.0008	14.2	2.5	250	0.094	1.92
McCANDLESS COURT	43A	42A	0.52	1.32	26	26	66	3.8	0.0011	0.0003	0.0013	61.0	4.0	250	0.119	2.42
McCANDLESS COURT	42A	41A	0.52	1.84	26	26	92	3.8	0.0015	0.0004	0.0018	61.0	4.0	250	0.119	2.42
McCANDLESS COURT	41A	40A	0.09	3.38	5	5	169	3.8	0.0027	0.0007	0.0034	27.5	2.0	250	0.084	1.71
McCANDLESS COURT	40A	35A	0.61	3.99	30	30	199	3.8	0.0032	0.0008	0.0040	82.0	0.5	250	0.042	0.86
PAISLEY GREEN AVENUE	39A	38A	0.84	0.84	42	42	42	3.8	0.0007	0.0002	0.0008	71.6	1.9	250	0.083	1.69
PAISLEY GREEN AVENUE	38A	37A	0.40	1.24	20	20	62	3.8	0.0010	0.0002	0.0012	57.5	1.4	250	0.070	1.43
PAISLEY GREEN AVENUE	37A	36A	0.61	4.09	30	30	203	3.8	0.0033	0.0008	0.0041	81.6	1.2	250	0.065	1.33
PAISLEY GREEN AVENUE	36A	35A	0.65	4.74	32	32	235	3.8	0.0038	0.0009	0.0047	81.8	0.5	250	0.042	0.86
PAISLEY GREEN AVENUE	35A	34A	0.17	8.90	9	9	443	3.8	0.0071	0.0018	0.0089	17.8	0.5	250	0.042	0.86
PAISLEY GREEN AVENUE	34A	12A	0.29	9.19	15	15	458	3.8	0.0074	0.0018	0.0092	45.3	0.8	250	0.051	1.05
PAISLEY GREEN AVENUE	61A	60A	0.45	0.45	31	31	31	3.8	0.0005	0.0001	0.0006	53.0	1.1	250	0.061	1.24
PAISLEY GREEN AVENUE	60A	59A	0.12	0.57	8	8	39	3.8	0.0006	0.0001	0.0007	20.2	0.5	250	0.042	0.86
PAISLEY GREEN AVENUE	59A	58A	0.61	1.18	43	43	82	3.8	0.0013	0.0002	0.0016	64.3	0.5	250	0.042	0.86
PAISLEY GREEN AVENUE	58A	57A	0.58	1.76	41	41	123	3.8	0.0020	0.0004	0.0023	64.3	0.5	250	0.042	0.86
PAISLEY GREEN AVENUE	57A	56A	0.20	1.96	14	14	137	3.8	0.0022	0.0004	0.0026	16.6	0.5	250	0.042	0.86
PAISLEY GREEN AVENUE	56A	54A	0.25	2.21	18	18	155	3.8	0.0025	0.0004	0.0029	75.2	0.5	250	0.042	0.86
BOYCE CREEK COURT	55A	54A	0.97	0.97	68	68	68	3.8	0.0011	0.0002	0.0013	120.0	1.0	250	0.059	1.21
BOYCE CREEK COURT	54A	10A	0.65	3.83	46	46	269	3.8	0.0043	0.0008	0.0051	82.3	0.5	250	0.042	0.86
ATCHISON DRIVE	14A2	13A	0.67	0.67	33	33	33	3.8	0.0005	0.0001	0.0007	66.0	1.0	250	0.059	1.21
ATCHISON DRIVE	13A	12A	0.18	0.85	9	9	42	3.8	0.0007	0.0002	0.0008	49.0	0.5	250	0.042	0.86
ATCHISON DRIVE	12A	11A	0.31	10.35	21	21	521	3.8	0.0084	0.0021	0.0104	76.0	0.4	250	0.038	0.77

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Region of Peel
Sanitary Design Sheet

Peaking Factor K = $\frac{1+\frac{14}{4+P^{1/2}}}{}$ P=Population in Thousands

Average Flow = 365 l/ca/day PHASE 2
Infiltration = 0.2 l/s/ha

Minimum Velocity= 0.75 m/s
Maximum Velocity= 3.5 m/s

Project: Chateaux of Caledon
Project No: L08-378
Date: 13-Sep-11

Designed by: AC
Checked by: AR

STREET	MANHOLE FROM	MANHOLE TO	A AREA (ha)	TOTAL AREA (ha)	POPULATION PER	SECTION POPULATION	ACCUM. POPULATION	Peaking Factor K	Pop. Flow (m3/s)	Infil. Flow (m3/s)	Peak FLOW (m3/s)	SANITARY SEWER DESIGN INFORMATION LENGTH (m)	SLOPE (%)	PIPE DIAMETER (mm)	FULL FLOW CAPACITY (m3/s)	FULL FLOW VELOCITY (m/s)
ATCHISON DRIVE	11A	10A	0.51	10.86	30	30	551	3.8	0.0088	0.0022	0.0110	73.0	0.4	250	0.038	0.77
ATCHISON DRIVE	10A	64A	0.15	14.84	0	0	820	3.8	0.0132	0.0030	0.0161	81.0	0.4	250	0.038	0.77
Southwest Condo Block	81A	65A	0.00	0.00	0	0	0	3.8	0.0000	0.0000	0.0000	12.0	0.8	250	0.051	1.05
BOYCE CREEK COURT	70A	69A	0.42	0.42	30	30	30	3.8	0.0005	0.0001	0.0006	21.2	1.0	250	0.059	1.21
BOYCE CREEK COURT	69A	68A	0.28	0.70	20	20	50	3.8	0.0008	0.0001	0.0009	46.5	0.5	250	0.042	0.86
BOYCE CREEK COURT	68A	67A	0.08	0.78	5	5	55	3.8	0.0009	0.0002	0.0010	12.3	0.5	250	0.042	0.86
BLOCK 162	212A	211A	0.18	0.18	31	31	31	3.8	0.0005	0.0000	0.0005	25.1	1.2	250	0.065	1.32
BLOCK 162	211A	67A	0.00	0.18	0	0	31	3.8	0.0005	0.0000	0.0005	12.5	0.7	250	0.050	1.03
BOYCE CREEK COURT	67A	66A	0.54	1.50	57	57	143	3.8	0.0023	0.0003	0.0026	60.0	0.5	250	0.042	0.86
BOYCE CREEK COURT	66A	65A	0.68	2.18	69	69	212	3.8	0.0034	0.0004	0.0038	90.8	0.5	250	0.042	0.86
BOYCE CREEK COURT	65A	64A	0.10	2.28	7	7	219	3.8	0.0035	0.0005	0.0040	35.6	0.4	250	0.038	0.77
ATCHISON DRIVE	64A	EX93A	0.23	17.35	25	25	1064	3.8	0.0170	0.0035	0.0205	39.0	0.4	250	0.038	0.77
Block 163	9A	EX93A	0.59	0.59	103	103	103	3.8	0.0017	0.0001	0.0018	14.0	1.0	250	0.059	1.21
ATCHISON DRIVE	EX93A	208A	0.16	18.10	0	0	1167	3.8	0.0185	0.0036	0.0221	32.3	0.4	250	0.038	
OLD CHURCH ROAD BLVD	210A	209A	0.16	0.16	28	28	28	3.8	0.0004	0.0000	0.0005	72.1	1.0	250	0.060	
OLD CHURCH ROAD BLVD	209A	208A	0.22	0.38	39	39	67	3.8	0.0011	0.0001	0.0012	119.5	0.4	250	0.039	
ATCHISON DRIVE	208A	72A	0.00	18.48	0	0	1234	3.7	0.0195	0.0037	0.0232	24.2	0.4	250	0.038	
FALLIS CR.	7A	6A	0.43	0.43	75	75	75	3.8	0.0012	0.0001	0.0013	57.3	1.0	250	0.059	1.21
STREET 'A'	PLUG4	93A	0.93	163.00	163	163	163	3.8	0.0026	0.0326	0.0352	43.7	0.5	300	0.068	0.97
STREET 'A'	93A	94A	0.00	0.00	0	0	163	3.8	0.0026	0.0000	0.0026	46.0	0.8	300	0.085	1.21
STREET 'A'	94A	6A	0.00	0.00	0	0	163	3.8	0.0026	0.0000	0.0026	43.7	0.5	300	0.068	0.97
FALLIS CR.	6A	5A	0.19	0.62	34	34	272	3.8	0.0044	0.0001	0.0045	43.7	0.5	300	0.068	0.97
Block 122	8A	5A	0.00	0.00	0	0	0	3.8	0.0000	0.0000	0.0000	9.0	1.0	250	0.059	1.21
FALLIS CR.	5A	4A	0.20	0.82	35	35	307	3.8	0.0049	0.0002	0.0051	41.7	0.5	300	0.068	0.97
FALLIS CR.	4A	3A	0.05	0.87	0	0	307	3.8	0.0049	0.0002	0.0051	14.5	0.5	300	0.068	0.97
FALLIS CR.	3A	2A	0.17	1.04	0	0	307	3.8	0.0049	0.0002	0.0051	73.9	0.5	300	0.068	0.97

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Region of Peel
Sanitary Design Sheet

Peaking Factor K = $\frac{1+\frac{14}{4+P^{1/2}}}{}$ P=Population in Thousands

Average Flow = 365 l/ca/day PHASE 2
Infiltration = 0.2 l/s/ha

Minimum Velocity= 0.75 m/s
Maximum Velocity= 3.5 m/s

Project: Chateaux of Caledon
Project No: L08-378
Date: 13-Sep-11

Designed by: AC
Checked by: AR

STREET	MANHOLE FROM	MANHOLE TO	A AREA (ha)	TOTAL AREA (ha)	POPULATION PER	SECTION POPULATION	ACCUM. POPULATION	Peaking Factor K	Pop. Flow (m3/s)	Infil. Flow (m3/s)	Peak FLOW (m3/s)	SANITARY SEWER DESIGN INFORMATION LENGTH (m)	SLOPE (%)	PIPE DIAMETER (mm)	FULL FLOW CAPACITY (m3/s)	FULL FLOW VELOCITY (m/s)
Fut. Development	92A	2A	0.00	0.00	0	0	0	3.8	0.0000	0.0000	0.0000	6.5	1.0	250	0.059	1.21
MACCARDY COURT	75A	95A	0.48	0.48	85	85	85	3.8	0.0014	0.0001	0.0015	31.4	1.0	250	0.059	1.21
MACCARDY COURT	95A	74A	0.56	1.04	97	97	182	3.8	0.0029	0.0002	0.0031	68.8	0.5	250	0.041	0.84
MACCARDY COURT	74A	110A	0.79	1.83	137	137	319	3.8	0.0051	0.0004	0.0055	84.8	0.5	250	0.041	0.84
MACCARDY COURT	110A	111A	0.00	1.83	0	0	319	3.8	0.0051	0.0004	0.0055	5.6	1.1	250	0.062	1.26
MACCARDY COURT	111A	2A	0.25	2.08	43	43	362	3.8	0.0058	0.0004	0.0062	31.9	0.6	250	0.046	0.94
OUTLET	2A	1A	0.00	3.12	0	0	669	3.8	0.0107	0.0006	0.0114	66.9	0.5	300	0.068	0.97
Exist. Old Church Road	94	1A	6.70	6.70	335	335	335	3.8	0.0054	0.0013	0.0067	20.0	0.5	250	0.042	0.86
Exist. Old Church Road	1A	95	0.00	9.82	0	0	1004	3.8	0.0161	0.0020	0.0181	73.0	0.5	300	0.068	0.97
Exist. Old Church Road	95	96	1.34	11.16	52	52	1056	3.8	0.0169	0.0022	0.0191	93.6	0.5	300	0.068	0.97
Exist. Old Church Road	96	97	0.00	11.16	0	0	1056	3.8	0.0169	0.0022	0.0191	95.0	0.5	300	0.068	0.97

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Region of Peel
Sanitary Design Sheet

Peaking Factor K = $\frac{1+\frac{14}{4+P^{1/2}}}{}$ **P=Population in Thousands**

Average Flow = 365 l/ca/day
Infiltration = 0.2 l/s/ha
PHASE 2

Minimum Velocity= 0.75 m/s
Maximum Velocity= 3.5 m/s

Project: Chateaux of Caledon
Project No: L08-378
Date: 22-Dec-17
Designed by: RM
Checked by: AR

STREET	MANHOLE FROM	MANHOLE TO	A AREA (ha)	TOTAL AREA (ha)	POPULATION PER	SECTION POPULATION	ACCUM. POPULATION	Peaking Factor K	Pop. Flow (m3/s)	Infil. Flow (m3/s)	Peak FLOW (m3/s)	SANITARY SEWER DESIGN INFORMATION LENGTH (m)	SLOPE (%)	PIPE DIAMETER (mm)	FULL FLOW CAPACITY (m3/s)	FULL FLOW VELOCITY (m/s)
McCANDLESS COURT	80A	33A	0.58	0.58	29	29	29	3.8	0.0005	0.0001	0.0006	67.9	3.5	250	0.111	2.27
McCANDLESS COURT	33A	26A	0.55	1.13	28	28	57	3.8	0.0009	0.0002	0.0011	70.0	2.0	250	0.084	1.71
McCANDLESS COURT	32A	31A	0.71	0.71	35	35	35	3.8	0.0006	0.0001	0.0007	69.8	2.5	250	0.094	1.92
McCANDLESS COURT	31A	30A	0.15	0.86	7	7	42	3.8	0.0007	0.0002	0.0008	16.0	2.5	250	0.094	1.92
McCANDLESS COURT	30A	29A	0.34	1.20	17	17	59	3.8	0.0009	0.0002	0.0012	63.0	3.0	250	0.103	2.10
McCANDLESS COURT	29A	28A	0.32	1.52	16	16	75	3.8	0.0012	0.0003	0.0015	63.0	3.0	250	0.103	2.10
McCANDLESS COURT	28A	27A	0.03	1.55	0	0	75	3.8	0.0012	0.0003	0.0015	14.9	0.5	250	0.042	0.86
McCANDLESS COURT	27A	26A	0.41	1.96	21	21	96	3.8	0.0015	0.0004	0.0019	75.3	0.5	250	0.042	0.86
McCANDLESS COURT	26A	17A	0.18	3.27	9	9	162	3.8	0.0026	0.0007	0.0033	39.0	0.5	250	0.042	0.86
BILLY COURT	25A	24A	0.73	0.73	37	37	37	3.8	0.0006	0.0001	0.0007	56.0	2.5	250	0.094	1.92
BILLY COURT	24A	23A	0.23	0.96	11	11	48	3.8	0.0008	0.0002	0.0010	16.7	4.0	250	0.119	2.42
BILLY COURT	23A	22A	0.55	1.51	28	28	76	3.8	0.0012	0.0003	0.0015	68.2	2.7	250	0.098	1.99
BILLY COURT	22A	18A	0.54	2.05	27	27	103	3.8	0.0017	0.0004	0.0021	68.2	1.5	250	0.073	1.48
BILLY COURT	79A	21A	0.48	0.48	24	24	24	3.8	0.0004	0.0001	0.0005	59.9	4.5	250	0.126	2.57
BILLY COURT	21A	20A	0.59	1.07	30	30	54	3.8	0.0009	0.0002	0.0011	67.1	1.0	250	0.059	1.21
BILLY COURT	20A	19A	0.24	1.31	12	12	66	3.8	0.0011	0.0003	0.0013	14.1	1.5	250	0.073	1.48
BILLY COURT	19A	18A	0.41	1.72	20	20	86	3.8	0.0014	0.0003	0.0017	77.0	2.0	250	0.084	1.71
BILLY COURT	18A	17A	0.18	3.95	9	9	198	3.8	0.0032	0.0008	0.0040	42.0	0.5	250	0.042	0.86
HEMI AVENUE	17A	15A	0.13	7.35	0	0	360	3.8	0.0058	0.0015	0.0072	83.3	0.5	250	0.042	0.86
ATCHISON DRIVE	14A	15A	1.09	1.09	54	54	54	3.8	0.0009	0.0002	0.0011	113.0	1.0	250	0.059	1.21
ATCHISON DRIVE	15A	73A	0.73	9.17	36	36	450	3.8	0.0072	0.0018	0.0091	63.1	0.5	250	0.042	0.86
ATCHISON DRIVE	73A	16A	0.56	9.73	28	28	478	3.8	0.0077	0.0019	0.0096	72.5	0.5	250	0.042	0.86
Innis Lake Road	16A	86A	0.09	9.82	0	0	478	3.8	0.0077	0.0020	0.0096	80.0	0.5	250	0.042	0.86
Innis Lake Road	86A	EX203A	0.12	9.94	0	0	478	3.8	0.0077	0.0020	0.0097	80.1	0.5	250	0.042	0.86
OCEAN'S POND COURT	53A	52A	1.17	1.17	58	58	58	3.8	0.0009	0.0002	0.0012	78.2	0.9	250	0.058	1.17
OCEAN'S POND COURT	52A	51A	0.18	1.35	9	9	67	3.8	0.0011	0.0003	0.0013	16.5	0.5	250	0.044	0.89
OCEAN'S POND COURT	51A	50A	0.72	2.07	36	36	103	3.8	0.0017	0.0004	0.0021	97.0	1.0	250	0.060	1.23

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Region of Peel
Sanitary Design Sheet

Peaking Factor K = $\frac{1+\frac{14}{4+P^{1/2}}}{}$ **P=Population in Thousands**

Average Flow = 365 l/ca/day PHASE 2
Infiltration = 0.2 l/s/ha

Minimum Velocity= 0.75 m/s
Maximum Velocity= 3.5 m/s

Project: Chateaux of Caledon
Project No: L08-378
Date: 22-Dec-17

Designed by: RM
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STREET	MANHOLE FROM	MANHOLE TO	A AREA (ha)	TOTAL AREA (ha)	POPULATION PER	SECTION POPULATION	ACCUM. POPULATION	Peaking Factor K	Pop. Flow (m3/s)	Infil. Flow (m3/s)	Peak FLOW (m3/s)	SANITARY SEWER DESIGN INFORMATION LENGTH (m)	SLOPE (%)	PIPE DIAMETER (mm)	FULL FLOW CAPACITY (m3/s)	FULL FLOW VELOCITY (m/s)
OCEAN'S POND COURT	50A	37A	0.17	2.24	8	8	111	3.8	0.0018	0.0004	0.0022	49.2	1.0	250	0.059	1.21
LIZZIE COURT	49A	48A	0.98	0.98	49	49	49	3.8	0.0008	0.0002	0.0010	95.0	4.3	250	0.124	2.52
LIZZIE COURT	48A	47A	0.17	1.15	9	9	58	3.8	0.0009	0.0002	0.0012	8.2	4.0	250	0.119	2.42
LIZZIE COURT	47A	46A	0.17	1.32	8	8	66	3.8	0.0011	0.0003	0.0013	41.3	1.0	250	0.060	1.22
LIZZIE COURT	46A	41A	0.13	1.45	6	6	72	3.8	0.0012	0.0003	0.0014	45.8	0.6	250	0.046	0.93
LIZZIE COURT	45A	44A	0.62	0.62	31	31	31	3.8	0.0005	0.0001	0.0006	56.5	1.6	250	0.076	1.55
LIZZIE COURT	44A	43A	0.18	0.80	9	9	40	3.8	0.0006	0.0002	0.0008	13.7	2.6	250	0.095	1.93
LIZZIE COURT	43A	42A	0.52	1.32	26	26	66	3.8	0.0011	0.0003	0.0013	60.8	3.9	250	0.117	2.38
LIZZIE COURT	42A	41A	0.52	1.84	26	26	92	3.8	0.0015	0.0004	0.0018	61.0	3.9	250	0.117	2.38
LIZZIE COURT	41A	40A	0.09	3.38	5	5	169	3.8	0.0027	0.0007	0.0034	28.0	2.4	250	0.093	1.89
LIZZIE COURT	40A	35A	0.61	3.99	30	30	199	3.8	0.0032	0.0008	0.0040	81.0	0.5	250	0.042	0.85
PAISLEY GREEN AVENUE	39A	38A	0.84	0.84	42	42	42	3.8	0.0007	0.0002	0.0008	71.6	1.9	250	0.083	1.69
PAISLEY GREEN AVENUE	38A	37A	0.40	1.24	20	20	62	3.8	0.0010	0.0002	0.0012	57.5	1.4	250	0.070	1.43
PAISLEY GREEN AVENUE	37A	36A	0.61	4.09	30	30	203	3.8	0.0033	0.0008	0.0041	81.6	1.2	250	0.065	1.33
PAISLEY GREEN AVENUE	36A	35A	0.65	4.74	32	32	235	3.8	0.0038	0.0009	0.0047	81.8	0.5	250	0.042	0.86
PAISLEY GREEN AVENUE	35A	34A	0.17	8.90	9	9	443	3.8	0.0071	0.0018	0.0089	17.8	0.5	250	0.042	0.86
PAISLEY GREEN AVENUE	34A	12A	0.29	9.19	15	15	458	3.8	0.0074	0.0018	0.0092	45.3	0.8	250	0.051	1.05
PAISLEY GREEN AVENUE	61A	60A	0.45	0.45	31	31	31	3.8	0.0005	0.0001	0.0006	53.0	1.1	250	0.061	1.24
PAISLEY GREEN AVENUE	60A	59A	0.12	0.57	8	8	39	3.8	0.0006	0.0001	0.0007	20.4	0.5	250	0.043	0.88
PAISLEY GREEN AVENUE	59A	58A	0.61	1.18	43	43	82	3.8	0.0013	0.0002	0.0016	64.5	0.5	250	0.042	0.87
PAISLEY GREEN AVENUE	58A	57A	0.58	1.76	41	41	123	3.8	0.0020	0.0004	0.0023	64.0	0.6	250	0.044	0.91
PAISLEY GREEN AVENUE	57A	56A	0.20	1.96	14	14	137	3.8	0.0022	0.0004	0.0026	16.4	0.5	250	0.041	0.84
PAISLEY GREEN AVENUE	56A	54A	0.25	2.21	18	18	155	3.8	0.0025	0.0004	0.0029	75.1	0.5	250	0.042	0.85
BOYCE CREEK COURT	55A	54A	0.97	0.97	68	68	68	3.8	0.0011	0.0002	0.0013	119.5	1.0	250	0.059	1.21
BOYCE CREEK COURT	54A	10A	0.65	3.83	46	46	269	3.8	0.0043	0.0008	0.0051	80.9	0.5	250	0.043	0.87
ATCHISON DRIVE	14A2	13A	0.67	0.67	33	33	33	3.8	0.0005	0.0001	0.0007	65.7	1.0	250	0.060	
ATCHISON DRIVE	13A	12A	0.18	0.85	9	9	42	3.8	0.0007	0.0002	0.0008	49.3	0.5	250	0.042	0.87
ATCHISON DRIVE	12A	11A	0.31	10.35	21	21	521	3.8	0.0084	0.0021	0.0104	76.1	0.4	250	0.038	0.78

COLE ENGINEERING
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Region of Peel
Sanitary Design Sheet

Peaking Factor K = $\frac{1+\frac{14}{4+P^{1/2}}}{}$ **P=Population in Thousands**

Average Flow = 365 l/ca/day PHASE 2
Infiltration = 0.2 l/s/ha

Minimum Velocity= 0.75 m/s
Maximum Velocity= 3.5 m/s

Project: Chateaux of Caledon
Project No: L08-378
Date: 22-Dec-17

Designed by: RM
Checked by: AR

STREET	MANHOLE FROM	MANHOLE TO	A AREA (ha)	TOTAL AREA (ha)	POPULATION PER	SECTION POPULATION	ACCUM. POPULATION	Peaking Factor K	Pop. Flow (m3/s)	Infil. Flow (m3/s)	Peak FLOW (m3/s)	SANITARY SEWER DESIGN INFORMATION LENGTH (m)	SLOPE (%)	PIPE DIAMETER (mm)	FULL FLOW CAPACITY (m3/s)	FULL FLOW VELOCITY (m/s)
ATCHISON DRIVE	11A	10A	0.51	10.86	30	30	551	3.8	0.0088	0.0022	0.0110	73.0	0.4	250	0.037	0.76
ATCHISON DRIVE	10A	64A	0.15	14.84	0	0	820	3.8	0.0132	0.0030	0.0161	80.9	0.4	250	0.039	0.79
Southwest Condo Block	81A	65A	1.91	1.91	191	191	191	3.8	0.0031	0.0004	0.0034	12.0	0.8	250	0.051	1.05
BOYCE CREEK COURT	70A	69A	0.42	0.42	30	30	30	3.8	0.0005	0.0001	0.0006	21.7	0.9	250	0.057	1.16
BOYCE CREEK COURT	69A	68A	0.28	0.70	20	20	50	3.8	0.0008	0.0001	0.0009	46.7	0.5	250	0.041	0.83
BOYCE CREEK COURT	68A	67A	0.08	0.78	5	5	55	3.8	0.0009	0.0002	0.0010	12.6	0.6	250	0.044	0.90
BOYCE CREEK COURT	67A	66A	0.36	1.14	25	25	80	3.8	0.0013	0.0002	0.0015	60.0	0.5	250	0.043	0.87
BOYCE CREEK COURT	66A	65A	0.48	1.62	34	34	114	3.8	0.0018	0.0003	0.0022	91.3	0.5	250	0.042	0.86
BOYCE CREEK COURT	65A	64A	0.10	3.63	7	7	312	3.8	0.0050	0.0007	0.0057	34.3	0.5	250	0.042	0.85
ATCHISON DRIVE	64A	93A	0.08	18.55	0	0	1132	3.8	0.0180	0.0037	0.0217	38.8	0.4	250	0.038	0.78
Block 163	9A	93A	0.59	0.59	103	103	103	3.8	0.0017	0.0001	0.0018	14.0	1.0	250	0.059	
ATCHISON DRIVE	93A	72A	0.16	19.30	0	0	1235	3.7	0.0195	0.0039	0.0234	39.0	0.4	250	0.038	0.77
FALLIS CR.	7A	6A	0.43	0.43	75	75	75	3.8	0.0012	0.0001	0.0013	60.9	1.0	250	0.059	
FALLIS CR.	6A	5A	0.19	0.62	34	34	109	3.8	0.0017	0.0001	0.0019	44.9	0.5	250	0.042	0.87
Block 122	8A	5A	0.84	0.84	146	146	146	3.8	0.0023	0.0002	0.0025	9.0	1.0	250	0.059	1.21
FALLIS CR.	5A	4A	0.20	1.66	35	35	290	3.8	0.0047	0.0003	0.0050	41.2	0.4	250	0.039	0.80
FALLIS CR.	4A	3A	0.05	1.71	0	0	290	3.8	0.0047	0.0003	0.0050	14.8	0.7	250	0.050	1.03
FALLIS CR.	3A	2A	0.17	1.88	0	0	290	3.8	0.0047	0.0004	0.0050	73.9	0.5	250	0.042	0.85
Fut. Development	92A	2A	0.93	0.93	163	163	163	3.8	0.0026	0.0002	0.0028	6.5	1.0	250	0.059	1.21
MACCARDY COURT	75A	74A	1.23	1.23	215	215	215	3.8	0.0035	0.0002	0.0037	99.9	0.5	250	0.042	0.86
MACCARDY COURT	74A	PLUG2	0.84	2.07	147	147	362	3.8	0.0058	0.0004	0.0062	67.9	0.5	250	0.042	0.86
MACCARDY COURT	PLUG2	2A	0.00	2.07	0	0	362	3.8	0.0058	0.0004	0.0062	31.5	0.5	250	0.042	0.86
OUTLET	2A	1A	0.00	4.88	0	0	815	3.8	0.0131	0.0010	0.0141	67.4	0.5	250	0.042	0.85

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Region of Peel
Sanitary Design Sheet

Peaking Factor K = $\frac{1+\frac{14}{4+P^{1/2}}}{}$ **P=Population in Thousands**

Average Flow = 365 l/ca/day
Infiltration = 0.2 l/s/ha
PHASE 2

Minimum Velocity= 0.75 m/s
Maximum Velocity= 3.5 m/s

Project: Chateaux of Caledon
Project No: L08-378
Date: 22-Dec-17
Designed by: RM
Checked by: AR

STREET	MANHOLE FROM	MANHOLE TO	A AREA (ha)	TOTAL AREA (ha)	POPULATION PER	SECTION POPULATION	ACCUM. POPULATION	Peaking Factor K	Pop. Flow (m3/s)	Infil. Flow (m3/s)	Peak FLOW (m3/s)	SANITARY SEWER DESIGN INFORMATION LENGTH (m)	SLOPE (%)	PIPE DIAMETER (mm)	FULL FLOW CAPACITY (m3/s)	FULL FLOW VELOCITY (m/s)
Exist. Old Church Road	94	1A	6.70	6.70	335	335	335	3.8	0.0054	0.0013	0.0067	20.0	0.5	250	0.042	0.86
Exist. Old Church Road	1A	95	0.00	11.58	0	0	1150	3.8	0.0183	0.0023	0.0206	73.0	0.5	250	0.042	0.86
Exist. Old Church Road	95	96	1.34	12.92	52	52	1202	3.7	0.0190	0.0026	0.0216	93.6	0.5	250	0.042	0.86
Exist. Old Church Road	96	97	0.00	12.92	0	0	1202	3.7	0.0190	0.0026	0.0216	95.0	0.5	250	0.042	0.86

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TOWN OF CALEDON

PUBLIC WORKS AND ENGINEERING DEPARTMENT
STORM DRAINAGE DESIGN CHART
FOR CIRCULAR DRAINS FLOWING FULL

Rainfall Intensity = A / (Tc+B)^c — 5-Year

A= 1593
B= 11
C= 0.8789
Starting Tc = 15 min

PHASE 1
PHASE 2

Date: December 22, 2017
Project: Chateaux of Caledon
Project No: L08-378
Designed by: AR/NL
Checked by: AR

*Equivalent circular pipe shown for elliptical pipe noted

LOCATION						DRAINAGE AREA					RAINFALL	FLOW	LENGTH	SLOPE	PIPE	FULL FLOW	FULL FLOW	SECTION	TIME OF
						COEFFICIENT			"AR"	AREA					DIAMETER	CAPACITY	VELOCITY	CONCENTRATION	CONCENTRATION
STREET	AREA ID	FROM		TO		A			CUMUL.	CUMUL.	INTENSITY							TIME	
		MH	Sta.	MH	Sta.	(ha)	C	A*C	A*C	A	(mm/hr)	(m3/s)	(m)	(%)	(mm)	(m3/s)	(m/s)	(min)	(min)
OCEAN'S POND COURT		49	0+241.736	48	0+159.397	0.88	0.4	0.35	0.35	0.88	90.91	0.09	84.68	1.00	375.00	0.18	1.60	0.88	15.88
EXTERNAL		DINL2	0+159.397	48	0+142.852	1.06	0.4	0.42	0.42	1.06	90.91	0.11	70.50	5.00	300.00	0.23	3.09	0.38	15.38
OCEAN'S POND COURT		48	0+159.397	47	0+047.454	0.27	0.4	0.11	0.88	2.21	88.29	0.22	14.40	1.20	450.00	0.33	1.98	0.12	16.00
OCEAN'S POND COURT		47	0+142.852	46	0+047.454	0.97	0.4	0.39	1.27	3.18	87.94	0.31	94.20	1.00	525.00	0.45	2.01	0.78	16.78
OCEAN'S POND COURT		46	0+047.454	34	0+001.5	0.18	0.4	0.07	1.34	3.36	85.76	0.32	45.78	1.00	525.00	0.45	2.01	0.38	17.16
McCANDLESS COURT		45	0+316.96	44	0+412.559	0.35	0.4	0.14	0.14	0.35	109.68	0.04	95.00	5.00	300.00	0.23	3.09	0.51	10.51
McCANDLESS COURT		44	0+412.559	43	0+420.084	0.03	0.4	0.01	0.15	0.38	107.38	0.05	6.90	4.50	300.00	0.21	2.93	0.04	10.55
McCANDLESS COURT		43	0+420.084	42	0+460.424	0.09	0.4	0.04	0.19	0.47	107.21	0.06	39.93	1.00	300.00	0.10	1.38	0.48	11.03
McCANDLESS COURT		42	0+460.424	38	0+109.551	0.27	0.4	0.11	0.30	0.74	105.15	0.09	42.13	0.50	375.00	0.13	1.13	0.62	11.65
EXTERNAL		RLCB24	0	41	0+297.282	0.17	0.4	0.07	0.07	0.17	90.91	0.02	39.07	1.00	250.00	0.06	1.22	0.53	15.53
McCANDLESS COURT		41	0+297.282	40	0+240.532	0.57	0.4	0.23	0.30	0.74	89.30	0.07	56.41	1.50	300.00	0.12	1.69	0.56	16.09
McCANDLESS COURT		40	0+240.532	39	0+227.636	0.17	0.4	0.07	0.36	0.91	87.69	0.09	11.71	3.50	300.00	0.19	2.59	0.08	16.16
RLCB		RLCB19	0	39	0+227.636	0.3	0.4	0.12	0.12	0.30	90.91	0.03	39.07	1.00	250.00	0.06	1.22	0.53	15.53
McCANDLESS COURT		39	0+227.636	38	0+109.551	0.5	0.4	0.20	0.68	1.71	87.48	0.17	117.75	4.00	300.00	0.20	2.77	0.71	16.87
McCANDLESS COURT		38	0+109.551	37	0+079.420	0.1	0.4	0.04	1.02	2.55	85.52	0.24	29.48	2.50	375.00	0.29	2.54	0.19	17.07
McCANDLESS COURT		37	0+079.420	32	0+001.374	0.53	0.4	0.21	1.23	3.08	85.00	0.29	77.85	1.00	525.00	0.45	1.82	0.71	17.78
RLCB		RLCB20	0	16	0+225.65	0.1	0.4	0.04	0.04	0.10	90.91	0.01	42.20	2.50	250.00	0.10	1.94	0.36	15.36
BILLY COURT		16	0+225.65	15	0+133.31	0.8	0.4	0.32	0.36	0.90	89.80	0.09	91.85	4.89	300.00	0.22	3.06	0.50	15.86
RLCB		RLCB21	0	15	0+133.31	0.15	0.4	0.06	0.06	0.15	90.91	0.02	42.25	3.00	250.00	0.11	2.12	0.33	15.33
BILLY COURT		15	0+133.31	14	0+91.29	0	0	0.00	0.42	1.05	88.33	0.10	42.24	1.37	375.00	0.21	1.88	0.37	16.24
BILLY COURT		22	0+246.51	21	0+301.52	0	0	0.00	0.00	0.00	90.91	0.00	54.52	2.07	300.00	0.15	1.99	0.46	15.46
BILLY COURT		21	0+301.52	20	0+318.13	0.21	0.4	0.08	0.08	0.21	89.53	0.02	14.87	5.25	300.00	0.23	3.17	0.08	15.54
RLCB		RLCB23	0	20	0+318.13	0.53	0.4	0.21	0.21	0.53	90.91	0.05	42.51	2.00	250.00	0.09	1.73	0.41	15.41
BILLY COURT		20	0+318.13	19	0+372.97	0.42	0.4	0.17	0.46	1.16	89.29	0.12	54.69	4.64	300.00	0.22	2.98	0.31	15.84
RLCB		RLCB25	0	19	0+372.97	0.16	0.4	0.06	0.06	0.16	90.91	0.02	41.01	2.00	250.00	0.09	1.73	0.39	15.39
RLCB		RLCB29	0	19	0+372.97	0.18	0.4	0.07	0.07	0.18	90.91	0.02	42.49	2.00	250.00	0.09	1.73	0.41	15.41
BILLY COURT		19	0+372.97	18	0+441.39	0.37	0.4	0.15	0.75	1.87	88.40	0.18	68.06	0.66	450.00	0.24	1.47	0.77	16.61
BILLY COURT		18	0+441.39	17	0+456.7	0	0.4	0.00	0.75	1.87	86.23	0.18	13.38	1.05	450.00	0.30	1.86	0.12	16.73
RLCB		RLCB24	0	17	0+456.7	0.27	0.4	0.11	0.11	0.27	90.91	0.03	26.54	1.00	250.00	0.06	1.22	0.36	15.36
BILLY COURT		17	0+456.7	14	0+91.29	0.41	0.4	0.16	1.02	2.55	85.90	0.24	71.65	0.61	525.00	0.35	1.57	0.76	17.49
RLCB		RLCB30	0	14	0+91.29	0.26	0.4	0.10	0.10	0.26	90.91	0.03	29.52	1.50	250.00	0.08	1.50	0.33	15.33
BILLY COURT		14	0+91.29	13	0+30.56	0.42	0.4	0.17	1.71	4.28	83.88	0.40	61.20	0.92	600.00	0.61	2.11	0.48	17.98
BILLY COURT		13	0+30.56	9	0+425.33	0.43	0.4	0.17	1.88	4.71	82.64	0.43	31.48	0.51	675.00	0.63	1.70	0.31	18.29

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TOWN OF CALEDON

PUBLIC WORKS AND ENGINEERING DEPARTMENT
STORM DRAINAGE DESIGN CHART
FOR CIRCULAR DRAINS FLOWING FULL

Rainfall Intensity = A / (Tc+B)^c — 5-Year

A= 1593
B= 11
C= 0.8789
Starting Tc = 15 min

PHASE 1
PHASE 2

Date: December 22, 2017
Project: Chateaux of Caledon
Project No: L08-378
Designed by: AR/NL
Checked by: AR

*Equivalent circular pipe shown for elliptical pipe noted

LOCATION						DRAINAGE AREA					RAINFALL	FLOW	LENGTH	SLOPE	PIPE DIAMETER	FULL FLOW CAPACITY	FULL FLOW	SECTION CONCENTRATION	TIME OF CONCENTRATION
						COEFFICIENT			"AR"	AREA									
LIZZIE COURT		25	0+218.97	24	0+136.77	0.63	0.4	0.25	0.25	0.63	90.91	0.06	82.01	4.94	300.00	0.22	3.07	0.44	15.44
LIZZIE COURT		24	0+136.77	23	0+87.75	0.35	0.4	0.14	0.39	0.98	89.56	0.10	49.32	1.58	300.00	0.13	1.74	0.47	15.92
RLCB		RLCB28	0	29	0+335.75	0.25	0.4	0.10	0.10	0.25	90.91	0.03	44.32	2.50	250.00	0.10	1.94	0.38	15.38
LIZZIE COURT		29	0+335.75	28	0+405.75	0.66	0.4	0.26	0.36	0.91	89.75	0.09	69.50	4.50	300.00	0.21	2.93	0.39	15.78
LIZZIE COURT		28	0+405.75	27	0+453.74	0	0	0.00	0.36	0.91	88.59	0.09	47.58	1.11	300.00	0.11	1.46	0.54	16.32
LIZZIE COURT		27	0+453.74	26	0+464.55	0.32	0.4	0.13	0.49	1.23	87.03	0.12	9.49	0.84	375.00	0.17	1.47	0.11	16.43
RLCB		RLCB26	0	26	0+464.55	0.27	0.4	0.11	0.11	0.27	90.91	0.03	26.35	2.00	250.00	0.09	1.73	0.25	15.25
LIZZIE COURT		26	0+464.55	23	0+87.75	0.1	0.4	0.04	0.64	1.60	86.73	0.15	73.38	0.53	450.00	0.22	1.32	0.93	17.36
LIZZIE COURT		23	0+87.75	11	0+588.89	0.19	0.4	0.08	1.11	2.77	84.23	0.26	89.35	0.47	525.00	0.31	1.38	1.08	18.44
PAISLEY GREEN AVENUE		36	0+357.134	35	0+286.576	0.87	0.4	0.35	0.35	0.87	90.91	0.09	71.67	2.00	300.00	0.14	1.96	0.61	15.61
RLCB		RLCB8	0	35	0+286.576	0.28	0.4	0.11	0.11	0.28	90.91	0.03	43.25	0.50	250.00	0.04	0.87	0.83	15.83
RLCB		RLCB9	0	35	0+286.576	0.23	0.4	0.09	0.09	0.23	90.91	0.02	43.25	0.50	250.00	0.04	0.87	0.83	15.83
PAISLEY GREEN AVENUE		35	0+286.576	34	0+231.764	0.35	0.4	0.14	0.69	1.73	88.42	0.17	55.28	1.46	375.00	0.22	1.94	0.48	16.31
RLCB		RLCB10	0	34	0+231.764	0.15	0.4	0.06	0.06	0.15	90.91	0.02	43.25	0.61	250.00	0.05	0.96	0.75	15.75
RLCB		RLCB11	0	34	0+231.764	0.13	0.4	0.05	0.05	0.13	90.91	0.01	43.25	0.61	250.00	0.05	0.96	0.75	15.75
PAISLEY GREEN AVENUE		34	0+231.764	33	0+149.934	0.6	0.4	0.24	2.39	5.97	84.74	0.56	81.24	0.98	600.00	0.63	2.17	0.62	17.79
RLCB		RLCB12	0	33	0+149.934	0.16	0.4	0.06	0.06	0.16	90.91	0.02	43.25	1.10	250.00	0.07	1.28	0.56	15.56
RLCB		RLCB13	0	33	0+149.934	0.2	0.4	0.08	0.08	0.20	90.91	0.02	42.25	1.00	250.00	0.06	1.22	0.58	15.58
PAISLEY GREEN AVENUE		33	0+149.934	32	0+068.126	0.48	0.4	0.19	2.72	6.81	83.13	0.63	82.09	1.09	675.00	0.92	2.48	0.55	18.34
PAISLEY GREEN AVENUE		32	0+149.934	31	1.188	0.16	0.4	0.06	4.02	10.05	81.75	0.91	22.10	1.27	750.00	1.31	2.87	0.13	18.47
PAISLEY GREEN AVENUE		31	0+068.126	7	1.188	0.2	0.4	0.08	4.10	10.25	81.44	0.93	47.91	0.65	825.00	1.21	2.19	0.36	18.83
RLCB		RLCB5	0	57	0+446.454	0.26	0.5	0.13	0.13	0.26	90.91	0.03	40.13	1.00	250.00	0.06	1.22	0.55	15.55
PAISLEY GREEN AVENUE		57	0+446.454	56	0+495.154	0.43	0.5	0.22	0.35	0.69	89.26	0.09	49.57	1.00	300.00	0.10	1.38	0.60	16.14
PAISLEY GREEN AVENUE		56	0+495.154	55	0+515.271	0.09	0.5	0.05	0.39	0.78	87.53	0.09	19.63	0.50	375.00	0.13	1.13	0.29	16.43
PAISLEY GREEN AVENUE		55	0+515.271	54	0+578.911	0.21	0.5	0.11	0.50	0.99	86.72	0.12	63.57	0.50	450.00	0.21	1.28	0.83	17.26
PAISLEY GREEN AVENUE		54	0+578.911	53	0+642.749	0.3	0.5	0.15	0.65	1.29	84.49	0.15	63.57	0.50	450.00	0.21	1.28	0.83	18.09
PAISLEY GREEN AVENUE		53	0+642.749	52	0+659.183	0.13	0.5	0.07	0.71	1.42	82.37	0.16	14.13	0.50	450.00	0.21	1.28	0.18	18.27
PAISLEY GREEN AVENUE		52	0+659.183	50	0+730.449	0.24	0.5	0.12	0.83	1.66	81.92	0.19	71.00	0.50	450.00	0.21	1.28	0.92	19.19
RLCB		RLCB4	0	51	0+286.806	0.42	0.55	0.23	0.23	0.42	90.91	0.06	39.08	1.00	250.00	0.06	1.22	0.53	15.53
RLCB		RLCB3	0	51	0+286.806	0.17	0.5	0.09	0.09	0.17	90.91	0.02	39.08	1.00	250.00	0.06	1.22	0.53	15.53
RLCB		RLCB26	0	51	0+286.806	0.19	0.5	0.10	0.10	0.19	90.91	0.02	42.02	1.93	250.00	0.09	1.70	0.41	15.41
RLCB		RLCB25	0	51	0+286.806	0.16	0.5	0.08	0.08	0.16	90.91	0.02	42.02	1.74	250.00	0.08	1.62	0.43	15.43
BOYCE CREEK COURT		51	0+286.806	50	0+406.367	0.39	0.5	0.20	0.69	1.33	89.30	0.17	119.82	1.00	450.00	0.30	1.81	1.10	16.63

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TOWN OF CALEDON

PUBLIC WORKS AND ENGINEERING DEPARTMENT
STORM DRAINAGE DESIGN CHART
FOR CIRCULAR DRAINS FLOWING FULL

Rainfall Intensity = A / (Tc+B)^c — 5-Year

A= 1593
B= 11
C= 0.8789
Starting Tc = 15 min

PHASE 1
PHASE 2

Date: December 22, 2017
Project: Chateaux of Caledon
Project No: L08-378
Designed by: AR/NL
Checked by: AR

*Equivalent circular pipe shown for elliptical pipe noted

LOCATION						DRAINAGE AREA					RAINFALL	FLOW	LENGTH	SLOPE	PIPE DIAMETER	FULL FLOW CAPACITY	FULL FLOW	SECTION CONCENTRATION	TIME OF CONCENTRATION
						COEFFICIENT			"AR"	AREA									
RLCB		RLCB23	0	50	0+406.367	0.21	0.5	0.11	0.11	0.21	90.91	0.03	42.08	2.24	250.00	0.09	1.83	0.38	15.38
BOYCE CREEK COURT		50	0+406.367	5	0+175.181	0.36	0.5	0.18	1.80	3.56	79.71	0.40	96.68	0.40	675.00	0.55	1.50	1.07	20.27
ATCHISON DRIVE		82W	0+665.79	12	0+646.9	0.36	0.4	0.14	0.14	0.36	90.91	0.04	19.48	1.18	375.00	0.20	1.74	0.19	15.19
ATCHISON DRIVE		12	0+646.9	11	0+588.89	0.11	0.4	0.04	0.19	0.47	90.34	0.05	57.96	0.47	375.00	0.13	1.10	0.88	16.06
RLCB		RLCB16	0	11	0+588.89	0.22	0.4	0.09	0.09	0.22	90.91	0.02	44.65	2.50	250.00	0.10	1.94	0.38	15.38
ATCHISON DRIVE		11	0+588.89	10	0+497.14	0.2	0.4	0.08	1.46	3.66	81.51	0.33	90.98	0.32	675.00	0.50	1.34	1.13	19.57
RLCB		RLCB17	0	10	0+497.14	0.2	0.4	0.08	0.08	0.20	90.91	0.02	44.08	2.25	250.00	0.09	1.84	0.40	15.40
ATCHISON DRIVE		10	0+497.14	9	0+425.33	0.25	0.4	0.10	1.64	4.11	78.86	0.36	72.03	0.33	675.00	0.50	1.36	0.88	20.45
RLCB		RLCB14	0	9	0+425.33	0.17	0.4	0.07	0.07	0.17	90.91	0.02	53.02	2.00	250.00	0.09	1.73	0.51	15.51
ATCHISON DRIVE		9	0+425.33	8	0	0.34	0.4	0.14	3.73	9.33	76.91	0.80	56.07	0.25	825.00	0.75	1.36	0.69	21.14
RLCB		RLCB13	0	8	0	0.03	0.4	0.01	0.01	0.03	90.91	0.00	42.92	2.50	250.00	0.10	1.94	0.37	15.37
ATCHISON DRIVE		8	0	7	0+323.15	0.14	0.4	0.06	3.80	9.50	75.46	0.80	45.45	0.33	825.00	0.86	1.55	0.49	21.62
RLCB		RLCB2	0	7	0+323.15	0.17	0.5	0.09	0.09	0.17	90.91	0.02	50.00	1.00	250.00	0.06	1.22	0.68	15.68
ATCHISON DRIVE (HE 975x1535)		7	0+323.15	6	0+244.602	0.27	0.5	0.14	8.12	20.19	74.47	1.68	78.16	0.22	1200.00	1.89	1.62	0.80	22.43
RLCB		RLCB6	0	6	0+244.602	0.1	0.5	0.05	0.05	0.10	90.91	0.01	47.47	1.00	250.00	0.06	1.22	0.65	15.65
RLCB		RLCB7	0	6	0+244.602	0.22	0.5	0.11	0.11	0.22	90.91	0.03	44.40	1.00	250.00	0.06	1.22	0.60	15.60
ATCHISON DRIVE (HE 975x1535)		6	0+244.602	5X	0+183.186	0	0.5	0.00	8.28	20.51	72.89	1.68	61.24	0.23	1200.00	1.94	1.66	0.61	23.04
ATCHISON DRIVE (HE 975x1535)		5X	0+183.186	5	0+175.181	0	0.5	0.00	8.28	20.51	71.74	1.65	11.30	0.46	1200.00	2.74	2.35	0.08	23.12
BOYCE CREEK COURT		67	0+271.081	66	0+249.277	0.17	0.5	0.09	0.09	0.17	109.68	0.03	22.58	1.00	300.00	0.10	1.38	0.27	10.27
BOYCE CREEK COURT		66	0+249.277	65	0+201.853	0.15	0.5	0.08	0.16	0.32	108.44	0.05	48.01	0.50	300.00	0.07	0.98	0.82	11.09
BOYCE CREEK COURT		65	0+201.853	64	0+188.680	0.06	0.5	0.03	0.19	0.38	104.90	0.06	14.16	0.50	300.00	0.07	0.98	0.24	11.33
BOYCE CREEK COURT		64	0+188.680	63	0+124.975	0.43	0.5	0.22	0.41	0.81	103.91	0.12	63.90	0.50	450.00	0.21	1.28	0.83	12.16
BOYCE CREEK COURT		63	0	62	0+040.133	0.4	0.5	0.20	0.61	1.21	100.62	0.17	84.84	0.50	450.00	0.21	1.28	1.10	13.27
BLOCK 162		203	0+201.853	202	0+040.133	0	0.7	0.00	0.24	0.34	84.72	0.06	12.97	0.77	375.00	0.16	1.41	0.15	17.32
BLOCK 162		202	0+188.680	201	0+040.133	0.26	0.7	0.18	0.42	0.60	84.32	0.10	15.05	0.66	375.00	0.15	1.30	0.19	17.52
BLOCK 162		201	0+124.975	62	0+040.133	0	0.7	0.00	0.42	0.60	83.82	0.10	11.29	0.62	375.00	0.14	1.26	0.15	17.67
BLOCK 162 (ABANDONED)		75	0	62	0+040.133	0	0.7	0.00	0.00	0.00	139.29	0.00	9.00	1.00	525.00	0.45	2.01	0.07	5.07
BOYCE CREEK COURT		62	0+040.133	61	0+001.497	0.18	0.5	0.09	1.12	1.99	83.43	0.26	40.50	0.51	525.00	0.32	1.43	0.47	18.14
ATCHISON DRIVE		74	0+048.714	61	0+087.866	0.2	0.7	0.14	0.14	0.20	90.91	0.04	39.14	1.00	300.00	0.10	1.38	0.47	15.47

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TOWN OF CALEDON

PUBLIC WORKS AND ENGINEERING DEPARTMENT
STORM DRAINAGE DESIGN CHART
FOR CIRCULAR DRAINS FLOWING FULL

Rainfall Intensity = A / (Tc+B)^c — 5-Year

A= 1593
B= 11
C= 0.8789
Starting Tc = 15 min

PHASE 1
PHASE 2

Date: December 22, 2017
Project: Chateaux of Caledon
Project No: L08-378
Designed by: AR/NL
Checked by: AR

*Equivalent circular pipe shown for elliptical pipe noted

LOCATION						DRAINAGE AREA COEFFICIENT			"AR"	AREA	RAINFALL	FLOW	LENGTH	SLOPE	PIPE DIAMETER	FULL FLOW CAPACITY	FULL FLOW	SECTION CONCENTRATION	TIME OF CONCENTRATION
BLOCK 163		116	0+001.496	61	0+059.519	0.59	0.7	0.41	0.41	0.59	139.29	0.16	10.80	1.00	375.00	0.18	1.60	0.11	5.11
ATCHISON DRIVE (HE 975x1535)		61	0	61X	0	0.25	0.5	0.13	1.79	3.03	82.25	0.41	79.40	0.20	1200.00	1.82	1.56	0.85	18.99
ATCHISON DRIVE (HE 975x1535)		61X	0	5	0+059.519	0	0.5	0.00	1.79	3.03	80.20	0.40	11.20	0.20	1200.00	1.82	1.56	0.12	19.11
FALLIS CRESCENT		5	0+175.181	4	0+230.980	0.44	0.7	0.31	12.18	27.54	71.59	2.42	64.17	0.27	1650.00	4.94	2.24	0.48	23.60
STREET 'A'		PLUG3	0+175.927	189	0+097.540	0	0	0.00	0.00	0.00	90.91	0.00	4.90	1.00	300.00	0.10	1.38	0.06	15.06
STREET 'A'		189	0+175.927	190	0+097.540	0.04	0.7	0.03	0.03	0.04	90.73	0.01	45.63	0.50	300.00	0.07	0.98	0.78	15.84
STREET 'A'		190	0+175.927	191	0+097.540	0.37	0.7	0.26	0.29	0.41	88.41	0.07	22.38	0.50	375.00	0.13	1.13	0.33	16.17
STREET 'A'		191	0+175.927	4	0+097.540	0	0	0.00	0.29	0.41	87.47	0.07	7.79	0.50	375.00	0.13	1.13	0.11	16.28
FALLIS CRESCENT		4	0+175.927	3	0+097.540	0.27	0.7	0.19	12.66	28.22	70.72	2.49	41.11	0.18	1650.00	4.05	1.84	0.37	23.97
RLCB		RLCB1	0	3	0+266.217	0.98	0.25	0.25	0.25	0.98	90.91	0.06	38.89	2.00	250.00	0.09	1.73	0.37	15.37
BLOCK 122		117	0	3	0+266.217	0	0.7	0.00	0.00	0.00	139.29	0.00	12.00	1.00	450.00	0.30	1.81	0.11	5.11
FALLIS CRESCENT		3	0+115.697	2	0+266.217	0	0	0.00	12.90	29.20	70.06	2.51	44.95	0.28	1650.00	4.99	2.26	0.33	24.30
FALLIS CRESCENT		2	0+266.217	1	0+211.90	0.72	0.7	0.50	13.41	29.92	69.48	2.59	32.60	0.22	1650.00	4.45	2.02	0.27	24.57
McCARDY COURT		DICB4	0+266.217	71	0	1.11	0.7	0.78	0.78	1.11	37.60	0.08	5.14	0.97	300.00	0.10	1.36	0.06	60.06
McCARDY COURT		71	0+266.217	PLUG2	0	0.48	0.7	0.34	1.11	1.59	37.57	0.12	91.57	0.40	450.00	0.19	1.15	1.33	61.39
McCARDY COURT		PLUG2	0+266.217	69	0	0	0	0.00	1.11	1.59	36.96	0.11	78.20	0.40	525.00	0.28	1.27	1.03	62.42
FUTURE BLOCK		100D	0+266.217	69	0	0.85	0.7	0.60	0.60	0.85	139.29	0.23	9.50	1.25	450.00	0.33	2.03	0.08	5.08
RLCB		RLCB31	0+266.217	69	0	0.25	0.7	0.18	0.18	0.25	90.91	0.04	45.70	1.00	250.00	0.06	1.22	0.62	15.62
FALLIS CRESCENT		69	0+266.217	68	0	0	0.7	0.00	1.88	2.69	36.50	0.19	55.00	0.40	525.00	0.28	1.27	0.72	63.14
FALLIS CRESCENT		68	0+266.217	1	0	0	0.7	0.00	1.88	2.69	36.19	0.19	16.40	0.20	600.00	0.29	0.98	0.28	63.42
FALLIS CRESCENT		1	0+211.90	HW1	0	0	0.7	0.00	15.29	32.61	36.07	1.53	6.11	0.37	1650.00	5.78	2.62	0.04	63.46
EASEMENT		HW4	0	DICBMH1	0	34.88	0.201050014	7.01	7.01	34.88	16.52	0.32	14.92	11.06	375.00	0.61	5.34	0.05	170.03
EASEMENT		DICBMH1	0	MH86	0	0	0.201050014	0.00	7.01	34.88	16.52	0.32	44.37	0.54	600.00	0.47	1.61	0.46	170.49
EASEMENT		MH86	0	85	0	0	0	0.00	7.01	34.88	16.48	0.32	51.47	0.54	600.00	0.47	1.61	0.53	171.02
LIZZIE COURT		85	0	180	0+238.98	0	0	0.00	7.01	34.88	16.44	0.32	18.41	1.09	600.00	0.67	2.29	0.13	171.15
LIZZIE COURT		180	0+238.98	84	0+313.17	0	0.4	0.00	7.01	34.88	16.43	0.32	72.63	1.47	600.00	0.78	2.66	0.45	171.61
LIZZIE COURT		84	0+313.17	182	0	0	0	0.00	7.01	34.88	16.39	0.32	22.22	1.71	600.00	0.84	2.87	0.13	171.73
LIZZIE COURT		182	0	83	0+1418.47	0	0	0.00	7.01	34.88	16.38	0.32	135.46	2.02	600.00	0.91	3.12	0.72	172.46
RLCB		RLCB18	0	83	0+1418.47	0.35	0.4	0.14	0.14	0.35	90.91	0.04	24.02	2.00	250.00	0.09	1.73	0.23	15.23
INNIS LAKE ROAD (DICB)		83	0+1418.47	82SE	0+665.79	1.32	0.7	0.92	8.08	36.55	16.32	0.37	50.56	1.48	600.00	0.78	2.67	0.32	172.77
INNIS LAKE ROAD		82SE	0+665.79	81	0+1319.18	0	0	0.00	8.08	36.55	16.30	0.37	14.21	2.89	600.00	1.09	3.73	0.06	172.84
INNIS LAKE ROAD		81	0+1319.18	80	0+1281.02	0	0	0.00	8.08	36.55	16.29	0.37	41.27	0.85	600.00	0.59	2.02	0.34	173.18
RLCB		RLCB27	0	CBMH89	0	0.31	0.4	0.12	0.12	0.31	90.91	0.03	58.84	1.00	250.00	0.06	1.22	0.80	15.80
SOUTH EASEMENT		CBMH89	0	80	0+1281.02	0.33	0.4	0.13	0.26	0.64	88.51	0.06	25.93	1.00	300.00	0.10	1.38	0.31	16.11
INNIS LAKE ROAD		80	0+1281.02	EX. CSP	0	0	0	0.00	8.33	37.19	16.27	0.38	13.29	0.50	1200.00	2.87	2.46	0.09	173.27

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TOWN OF CALEDON

PUBLIC WORKS AND ENGINEERING DEPARTMENT
STORM DRAINAGE DESIGN CHART
FOR CIRCULAR DRAINS FLOWING FULL

Rainfall Intensity = A / (Tc+B)^c — 5-Year

A= 1593
B= 11
C= 0.8789
Starting Tc = 15 min

PHASE 1
PHASE 2

Date: December 22, 2017
Project: Chateaux of Caledon
Project No: L08-378
Designed by: AR/NL
Checked by: AR

*Equivalent circular pipe shown for elliptical pipe noted

LOCATION						DRAINAGE AREA					RAINFALL	FLOW	LENGTH	SLOPE	PIPE DIAMETER	FULL FLOW CAPACITY	FULL FLOW	SECTION CONCENTRATION	TIME OF CONCENTRATION
						COEFFICIENT			"AR"	AREA									
POND OUTLET (4hr TC)		93	0+559.686	92	0+662.48	0	0.4	0.00	0.00	0.00	42.96	0.33	43.18	0.81	525.00	0.40	1.81	0.40	50.40
EASEMENT POND OUTLET		92	0+662.48	91	0+668.480	0	0.4	0.00	0.00	0.00	42.72	0.33	82.13	0.40	750.00	0.73	1.61	0.85	51.25
EASEMENT POND OUTLET		91	1+568.747	90	1+418.747	0	0	0.00	0.00	0.00	42.20	0.33	60.20	0.40	750.00	0.73	1.61	0.62	51.87
OUTFALL		90	1+418.747	89	1+668.480	0	0	0.00	0.00	0.00	41.84	0.33	9.10	0.40	750.00	0.73	1.61	0.09	51.97
OUTFALL		89	1+668.480	88	1+286.062	0	0	0.00	0.00	0.00	41.78	0.33	140.00	0.40	750.00	0.73	1.61	1.45	53.41
OUTFALL		88	1+286.062	87	1+284.047	0	0	0.00	0.00	0.00	40.95	0.33	120.00	1.00	750.00	1.16	2.55	0.79	54.20
OUTFALL		87	0	HW3	88.416	0	0	0.00	0.00	0.00	40.52	0.33	20.00	1.50	750.00	1.42	3.12	0.11	54.31
EX. SCHOOL		DICB	88.416	101	0+053.277	1.06	0.75	0.80	7.81	35.94	109.68	2.38	14.50	0.45	1350.00	3.73	2.53	0.10	10.10
INNIS LAKE		101	88.416	100	0+053.277	0.14	0.7	0.10	7.91	36.08	139.29	3.06	47.70	0.40	1350.00	3.52	2.38	0.33	5.33
EX. SCHOOL		CULVERT	1+668.480	100	0+053.277	0.43	0.75	0.32	0.32	0.43	90.91	0.08	22.80	0.83	525.00	0.41	1.83	0.21	15.21
INNIS LAKE		100	1+286.062	99	0+053.277	0	0	0.00	8.23	36.51	90.27	2.06	76.40	0.40	1350.00	3.52	2.38	0.53	15.74
OLD CHURCH		CB4	0	CBMH2	0+053.277	0.36	0.7	0.25	0.25	0.36	139.29	0.10	89.90	0.40	375.00	0.12	1.01	1.48	6.48
OLD CHURCH		CBMH2	0	98	0+053.277	0.35	0.7	0.25	0.50	0.71	128.89	0.18	29.10	0.40	525.00	0.28	1.27	0.38	6.86
INNIS LAKE		98	88.416	97	0+053.277	0	0	0.00	8.97	37.70	88.07	2.19	28.70	0.45	1350.00	3.73	2.53	0.19	16.14
INNIS LAKE		97	0	HW2	0+053.277	0	0	0.00	8.97	37.70	87.53	2.18	7.50	0.45	1350.00	3.73	2.53	0.05	16.19

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TOWN OF CALEDON

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STORM DRAINAGE DESIGN CHART
FOR CIRCULAR DRAINS FLOWING FULL

Rainfall Intensity = A / (Tc+B)^c 5yr Storm

A= 1593
B= 11
C= 0.8789

PHASE 1
PHASE 2

Starting Tc = 15 min

Date: 22-Dec-17
Project: Chateaux of Caledon
Project No: L08-378
Designed by: AR/RM
Checked by: AR

*Equivalent circular pipe shown for elliptical pipe noted

LOCATION						DRAINAGE AREA					RAINFALL	FLOW	LENGTH	SLOPE	PIPE	FULL FLOW	FULL FLOW	SECTION	TIME OF
							COEFFICIENT		"AR"	AREA					DIAMETER	CAPACITY		CONCENTRATION	CONCENTRATION
STREET	AREA ID	FROM		TO		A	C	A*C	CUMUL.	CUMUL.	INTENSITY						VELOCITY	TIME	
		MH	Sta.	MH	Sta.	(ha)			A*C	A	(mm/hr)	(m3/s)	(m)	(%)	(mm)	(m3/s)	(m/s)	(min)	(min)
PHASE 1																			
OCEAN'S POND COURT	A1	49	0+241.736	48	0+159.397	0.88	0.4	0.352	0.352	0.88	90.907	0.0889	84.84	0.99	375	0.1819	1.60	0.89	15.89
EXTERNAL		DINL2	0+159.397	48	0+142.852	1.06	0.4	0.424	0.424	1.06	90.907	0.1071	70.50	5	300	0.2255	3.09	0.38	15.38
OCEAN'S POND COURT	A2	48	0+159.397	47	0+047.454	0.27	0.4	0.108	0.884	2.21	88.269	0.2167	14.31	1.18	450	0.3229	1.97	0.12	16.01
OCEAN'S POND COURT	A3	47	0+142.852	46	0+047.454	0.97	0.4	0.388	1.272	3.18	87.921	0.3107	95.19	1.07	525	0.4639	2.08	0.76	16.77
OCEAN'S POND COURT	A4	46	0+047.454	34	0+001.5	0.18	0.4	0.072	1.344	3.36	85.792	0.3203	45.35	1.19	525	0.4892	2.19	0.35	17.12
PAISLEY GREEN AVENUE	A5	36	0+357.134	35	0+286.576	0.87	0.4	0.348	0.348	0.87	90.907	0.0879	71.59	1.94	300	0.1404	1.93	0.62	15.62
RLCB	A6	RLCB8	0	35	0+286.576	0.28	0.4	0.112	0.112	0.28	90.907	0.0283	43.25	0.5	250	0.0438	0.87	0.83	15.83
RLCB	A7	RLCB9	0	35	0+286.576	0.23	0.4	0.092	0.092	0.23	90.907	0.0232	43.25	0.5	250	0.0438	0.87	0.83	15.83
PAISLEY GREEN AVENUE	A8	35	0+286.576	34	0+231.764	0.35	0.4	0.14	0.692	1.73	88.423	0.1700	55.28	1.46	375	0.2209	1.94	0.48	16.31
RLCB	A9	RLCB10	0	34	0+231.764	0.15	0.4	0.06	0.06	0.15	90.907	0.0152	43.25	0.61	250	0.0484	0.96	0.75	15.75
RLCB	A10	RLCB11	0	34	0+231.764	0.13	0.4	0.052	0.052	0.13	90.907	0.0131	43.25	0.61	250	0.0484	0.96	0.75	15.75
PAISLEY GREEN AVENUE	A11	34	0+231.764	33	0+149.934	0.6	0.4	0.24	2.388	5.97	84.865	0.5629	81.24	0.98	600	0.6338	2.17	0.62	17.74
RLCB	A12	RLCB12	0	33	0+149.934	0.16	0.4	0.064	0.064	0.16	90.907	0.0162	43.25	1.1	250	0.0650	1.28	0.56	15.56
RLCB	A13	RLCB13	0	33	0+149.934	0.2	0.4	0.08	0.08	0.2	90.907	0.0202	42.25	1	250	0.0620	1.22	0.58	15.58
PAISLEY GREEN AVENUE	A14	33	0+149.934	32	0+068.126	0.48	0.4	0.192	2.724	6.81	83.246	0.6299	81.81	1	675	0.8765	2.37	0.57	18.31
LIZZIE COURT	A15	45	0+316.96	44	0+412.559	0.35	0.4	0.14	0.14	0.35	109.677	0.0427	94.87	5.03	300	0.2261	3.10	0.51	10.51
LIZZIE COURT	A16	44	0+412.559	43	0+420.084	0.03	0.4	0.012	0.152	0.38	107.389	0.0453	7.16	4.61	300	0.2165	2.97	0.04	10.55
LIZZIE COURT	A17	43	0+420.084	42	0+460.424	0.09	0.4	0.036	0.188	0.47	107.213	0.0560	39.90	1.03	300	0.1023	1.40	0.47	11.02
LIZZIE COURT	A18	42	0+460.424	38	0+109.551	0.27	0.4	0.108	0.296	0.74	105.183	0.0865	42.37	0.73	375	0.1562	1.37	0.52	11.54
EXTERNAL		RLCB24	0	41	0+297.282	0.17	0.4	0.068	0.068	0.17	90.907	0.0172	39.07	1	250	0.0620	1.22	0.53	15.53
LIZZIE COURT	A19	41	0+297.282	40	0+240.532	0.57	0.4	0.228	0.296	0.74	89.303	0.0734	57.60	1.6	300	0.1275	1.75	0.55	16.08
LIZZIE COURT	A20	40	0+240.532	39	0+227.636	0.17	0.4	0.068	0.364	0.91	87.710	0.0887	11.36	3.52	300	0.1892	2.59	0.07	16.15
RLCB	A21	RLCB19	0	39	0+227.636	0.3	0.4	0.12	0.12	0.3	90.907	0.0303	39.07	1	250	0.0620	1.22	0.53	15.53
LIZZIE COURT	A22	39	0+227.636	38	0+109.551	0.65	0.4	0.26	0.744	1.86	87.503	0.1808	118.22	3.99	375	0.3652	3.20	0.61	16.77
LIZZIE COURT	A23	38	0+109.551	37	0+079.420	0.12	0.4	0.048	1.088	2.72	85.798	0.2593	30.03	2.4	450	0.4605	2.81	0.18	16.95
LIZZIE COURT	A24	37	0+079.420	32	0+001.374	0.54	0.4	0.216	1.304	3.26	85.316	0.3090	77.73	0.49	600	0.4482	1.82	0.71	17.66
PAISLEY GREEN AVENUE	A25	32	0+149.934	31	1.188	0.16	0.4	0.064	4.092	10.23	81.811	0.9299	22.10	1.27	750	1.3082	2.87	0.13	18.44
PAISLEY GREEN AVENUE	A26	31	0+068.126	7	1.188	0.2	0.4	0.08	4.172	10.43	81.497	0.9445	47.91	0.65	825	1.2067	2.19	0.36	18.81
PHASE 2																			
RLCB	A27	RLCB20	0	26	0+261.094	0.1	0.4	0.04	0.04	0.1	90.907	0.0101	42.08	1	250	0.0620	1.22	0.57	15.57
BILLY COURT	A28	26	0+261.094	25	0+193.983	0.49	0.4	0.196	0.236	0.59	89.182	0.0585	67.66	4.5	300	0.2139	2.93	0.38	15.96
RLCB	A29	RLCB21	0	25	0+193.983	0.17	0.4	0.068	0.068	0.17	90.907	0.0172	42.08	1	250	0.0620	1.22	0.57	15.57
BILLY COURT	A30	25	0+193.983	24	0+129.395	0.28	0.4	0.112	0.416	1.04	88.063	0.1018	64.25	1	375	0.1828	1.60	0.67	16.62
BILLY COURT	A31	24	0+129.395	23	0+116.604	0.05	0.4	0.02	0.436	1.09	86.190	0.1044	11.65	1	375	0.1828	1.60	0.12	16.75
BILLY COURT	A32	23	0+116.604	22	0+043.5	0.19	0.4	0.076	0.512	1.28	85.860	0.1221	72.76	1.5	375	0.2239	1.96	0.62	17.36
BILLY COURT	A33	30	0+227.398	29	0+332.407	0.42	0.4	0.168	0.168	0.42	90.907	0.0424	54.75	2.5	300	0.1594	1.82	0.50	15.50
BILLY COURT	A34	29	0+332.407	28	0+348.945	0.06	0.4	0.024	0.192	0.48	89.393	0.0477	14.18	5	300	0.2255	1.82	0.13	15.63
BILLY COURT	A35	28	0+348.945	27	0+415.323	0.83	0.4	0.332	0.524	1.31	89.010	0.1296	66.12	3	300	0.1746	1.82	0.61	16.24
RLCB	A36	RLCB22	0	27	0+415.323	0.17	0.4	0.068	0.068	0.17	90.907	0.0172	42.08	1	250	0.0620	1.82	0.39	15.39
BILLY COURT	A37	27	0+415.323	22	0+043.5	0.59	0.4	0.236	0.828	2.07	87.269	0.2007	66.11	1.5	450	0.3641	2.22	0.50	16.73
BILLY COURT	A38	22	0+043.5	13	0+001.5	0.09	0.4	0.036	1.376	3.44	84.216	0.3219	42.00	0.5	600	0.4527	1.55	0.45	17.81

COLE ENGINEERING
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TOWN OF CALEDON

PUBLIC WORKS AND ENGINEERING DEPARTMENT
STORM DRAINAGE DESIGN CHART
FOR CIRCULAR DRAINS FLOWING FULL

Rainfall Intensity = A / (Tc+B)^c 5yr Storm

A= 1593
B= 11
C= 0.8789

PHASE 1
PHASE 2

Starting Tc = 15 min

Date: 22-Dec-17
Project: Chateaux of Caledon
Project No: L08-378
Designed by: AR/RM
Checked by: AR

*Equivalent circular pipe shown for elliptical pipe noted

LOCATION						DRAINAGE AREA					RAINFALL	FLOW	LENGTH	SLOPE	PIPE	FULL FLOW	FULL FLOW	SECTION	TIME OF
							COEFFICIENT		"AR"	AREA					DIAMETER	CAPACITY	VELOCITY	CONCENTRATION	CONCENTRATION
STREET	AREA ID	FROM		TO		A	C	A*C	CUMUL.	CUMUL.	INTENSITY							TIME	
		MH	Sta.	MH	Sta.	(ha)			A*C	A	(mm/hr)	(m3/s)	(m)	(%)	(mm)	(m3/s)	(m/s)	(min)	(min)
McCANDLESS COURT	A39	19	0+043.5	18	0+426.006	0.13	0.4	0.052	0.052	0.13	90.907	0.0131	10.26	1	300	0.1008	1.38	0.12	15.12
McCANDLESS COURT	A40	18	0+001.5	17	0+426.006	0.34	0.4	0.136	0.188	0.47	90.528	0.0473	65.99	3	300	0.1746	2.39	0.46	15.58
McCANDLESS COURT	A41	17	0	16	0+426.006	0.31	0.4	0.124	0.312	0.78	89.152	0.0773	57.47	3	300	0.1746	2.39	0.40	15.98
McCANDLESS COURT	A42	16	0+357.732	15	0+426.006	0.03	0.4	0.012	0.324	0.81	87.989	0.0792	12.85	0.5	375	0.1293	1.13	0.19	16.17
McCANDLESS COURT	A43	15	0+115.702	14	0+426.006	0.19	0.4	0.076	0.4	1	87.452	0.0972	70.98	0.5	375	0.1293	1.13	1.04	17.21
McCANDLESS COURT	A44	21	0+357.732	20	0+357.732	0.57	0.4	0.228	0.228	0.57	90.907	0.0576	65.00	3.5	300	0.1886	2.59	0.42	15.42
McCANDLESS COURT	A45	20	0+116.604	14	0+426.006	0.45	0.4	0.18	0.408	1.02	89.639	0.1016	70.00	2	300	0.1426	1.96	0.60	16.02
McCANDLESS COURT	A46	14	0+426.006	13	1.5	0.1	0.4	0.04	0.848	2.12	84.605	0.1993	45.00	0.5	525	0.3171	1.42	0.53	17.74
HEMI AVENUE	A47	13	0+087.75	10	1.5	0.14	0.4	0.056	2.28	5.7	83.056	0.5260	89.25	1.75	600	0.8470	2.90	0.51	18.33
ATCHISON DRIVE	A48	81A	0	12	0+668.683	0.05	0.4	0.02	0.02	0.05	90.907	0.0051	13.00	1	300	0.1008	1.38	0.16	15.16
RLCB	A49	RLCB18	0	12	0+655.722	0.33	0.4	0.132	0.132	0.33	90.907	0.0333	44.07	2	300	0.1426	1.96	0.38	15.38
ATCHISON DRIVE	A50	12	0+655.722	11	0+601.885	0.23	0.4	0.092	0.244	0.61	89.768	0.0608	53.80	0.4	450	0.1880	1.15	0.78	16.16
RLCB	A51	RLCB17	0	11	0+601.885	0.25	0.4	0.1	0.1	0.25	90.907	0.0253	44.26	2	250	0.0877	1.73	0.43	15.43
RLCB	A52	RLCB27	0	11	0+601.885	0.31	0.4	0.124	0.124	0.31	90.907	0.0313	56.89	1	250	0.0620	1.22	0.77	15.77
ATCHISON DRIVE	A53	11	0+601.885	10	0+543.885	0.18	0.4	0.072	0.54	1.35	87.490	0.1312	58.00	0.4	450	0.1880	1.15	0.84	17.00
RLCB	A54	RLCB16	0	10	0+543.885	0.38	0.4	0.152	0.152	0.38	90.907	0.0384	44.23	1.5	250	0.0759	1.50	0.49	15.49
RLCB	A55	RLCB15	0	10	0+543.885	0.26	0.4	0.104	0.104	0.26	90.907	0.0263	44.26	1	250	0.0620	1.22	0.60	15.60
ATCHISON DRIVE	A56	10	0+543.885	9	0+434.24	0.4	0.4	0.16	3.236	8.09	81.779	0.7351	109.60	0.3	825	0.8198	1.49	1.23	19.56
RLCB	A57	RLCB14	0	8	0+368.813	0.48	0.4	0.192	0.192	0.48	90.907	0.0485	53.02	2	250	0.0877	1.73	0.51	15.51
ATCHISON DRIVE	A58	9	0+434.24	8	0+368.813	0.36	0.4	0.144	3.38	8.45	78.881	0.7406	64.78	0.37	825	0.9104	1.65	0.65	20.21
RLCB	A59	RLCB13	0	8	0+368.813	0.03	0.4	0.012	0.012	0.03	90.907	0.0030	42.92	2.5	250	0.0980	1.94	0.37	15.37
ATCHISON DRIVE	A60	8	0+368.813	7	0+323.15	0.14	0.4	0.056	3.64	9.1	77.426	0.7829	45.72	0.33	825	0.8598	1.56	0.49	20.70
RLCB	A61	RLCB2	0	7	0+323.15	0.17	0.5	0.085	0.085	0.17	90.907	0.0215	50.00	1	250	0.0620	1.22	0.68	15.68
ATCHISON DRIVE (HE 975x1535)	A62	7	0+323.15	6	0+244.602	0.27	0.5	0.135	8.032	19.97	76.376	1.7040	78.38	0.21	1200	1.8629	1.60	0.82	21.52
RLCB	A63	RLCB6	0	6	0+244.602	0.1	0.5	0.05	0.05	0.1	90.907	0.0126	47.47	1	250	0.0620	1.22	0.65	15.65
RLCB	A64	RLCB7	0	6	0+244.602	0.22	0.5	0.11	0.11	0.22	90.907	0.0278	44.40	1	250	0.0620	1.22	0.60	15.60
ATCHISON DRIVE (HE 975x1535)	A65	6	0+244.602	5X	0+183.186	0	0.5	0	8.192	20.29	74.684	1.6995	61.14	0.2	1200	1.8180	1.56	0.65	22.17
ATCHISON DRIVE (HE 975x1535)		5X	0+183.186	5	0+175.181	0	0.5	0	8.192	20.29	73.389	1.6700	11.30	0.2	1200	1.8180	1.56	0.12	22.29
RLCB	A66	RLCB5	0	57	0+446.454	0.26	0.5	0.13	0.13	0.26	90.907	0.0328	40.13	1	250	0.0620	1.22	0.55	15.55
PAISLEY GREEN AVENUE	A67+A68	57	0+446.454	56	0+495.154	0.43	0.5	0.215	0.345	0.69	89.260	0.0855	49.25	1.05	300	0.1033	1.42	0.58	16.13
PAISLEY GREEN AVENUE	A69	56	0+495.154	55	0+515.271	0.09	0.5	0.045	0.39	0.78	87.583	0.0949	20.37	0.49	375	0.1280	1.12	0.30	16.43
PAISLEY GREEN AVENUE	A70	55	0+515.271	54	0+578.911	0.21	0.5	0.105	0.495	0.99	86.734	0.1193	62.24	0.51	450	0.2123	1.29	0.80	17.23
PAISLEY GREEN AVENUE	A71	54	0+578.911	53	0+642.749	0.3	0.5	0.15	0.645	1.29	84.565	0.1515	64.43	0.49	450	0.2081	1.27	0.85	18.08
PAISLEY GREEN AVENUE	A72	53	0+642.749	52	0+659.183	0.13	0.5	0.065	0.71	1.42	82.397	0.1625	14.90	0.8	450	0.2659	1.62	0.15	18.23
PAISLEY GREEN AVENUE	A73	52	0+659.183	50	0+730.449	0.24	0.5	0.12	0.83	1.66	82.017	0.1891	70.88	0.52	450	0.2144	1.31	0.90	19.13
RLCB	A74	RLCB4	0	51	0+286.806	0.42	0.55	0.231	0.231	0.42	90.907	0.0583	39.08	1	250	0.0620	1.22	0.53	15.53
RLCB	A75	RLCB3	0	51	0+286.806	0.17	0.5	0.085	0.085	0.17	90.907	0.0215	39.08	1	250	0.0620	1.22	0.53	15.53

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TOWN OF CALEDON

PUBLIC WORKS AND ENGINEERING DEPARTMENT
STORM DRAINAGE DESIGN CHART
FOR CIRCULAR DRAINS FLOWING FULL

Rainfall Intensity = A / (Tc+B)^c — 5yr Storm

A= 1593
B= 11
C= 0.8789

PHASE 1
PHASE 2

Starting Tc = 15 min

Date: 22-Dec-17
Project: Chateaux of Caledon
Project No: L08-378
Designed by: AR/RM
Checked by: AR

*Equivalent circular pipe shown for elliptical pipe noted

LOCATION						DRAINAGE AREA					RAINFALL	FLOW	LENGTH	SLOPE	PIPE DIAMETER	FULL FLOW CAPACITY	FULL FLOW VELOCITY	SECTION CONCENTRATION TIME	TIME OF CONCENTRATION
							COEFFICIENT		"AR" CUMUL.	AREA CUMUL.	INTENSITY								
STREET	AREA ID	FROM MH	FROM Sta.	TO MH	TO Sta.	A (ha)	C	A*C	A*C	A	(mm/hr)	(m3/s)	(m)	(%)	(mm)	(m3/s)	(m/s)	(min)	(min)
RLCB	A76	RLCB26	0	51	0+286.806	0.19	0.5	0.095	0.095	0.19	90.907	0.0240	42.02	1.93	250	0.0861	1.70	0.41	15.41
RLCB	A77	RLCB25	0	51	0+286.806	0.16	0.5	0.08	0.08	0.16	90.907	0.0202	42.02	1.74	250	0.0818	1.62	0.43	15.43
BOYCE CREEK COURT	A78	51	0+286.806	50	0+406.367	0.39	0.5	0.195	0.686	1.33	89.303	0.1702	119.49	0.99	450	0.2958	1.80	1.10	16.64
RLCB	A79	RLCB23	0	50	0+406.367	0.21	0.5	0.105	0.105	0.21	90.907	0.0265	42.08	2.24	250	0.0928	1.83	0.38	15.38
BOYCE CREEK COURT	A80	50	0+406.367	5	0+175.181	0.36	0.5	0.18	1.801	3.56	79.850	0.3995	92.95	0.52	600	0.4617	1.58	0.98	20.11
BLOCK 162	A81	75	0	62	0+040.133	0.6	0.7	0.42	0.42	0.6	139.288	0.1625	9.00	1	525	0.4484	2.01	0.07	5.07
BOYCE CREEK COURT	A82	67	0+271.081	66	0+249.277	0.17	0.5	0.085	0.085	0.17	109.677	0.0259	22.63	0.97	300	0.0993	1.36	0.28	10.28
BOYCE CREEK COURT	A83	66	0+249.277	65	0+201.853	0.15	0.5	0.075	0.16	0.32	108.422	0.0482	48.06	0.66	300	0.0819	1.12	0.71	10.99
BOYCE CREEK COURT	A84	65	0+201.853	64	0+188.680	0.06	0.5	0.03	0.19	0.38	105.325	0.0556	14.06	0.56	300	0.0755	1.03	0.23	11.22
BOYCE CREEK COURT	A85	64	0+188.680	63	0+124.975	0.43	0.5	0.215	0.405	0.81	104.381	0.1174	65.21	0.56	375	0.1368	1.20	0.91	12.12
BOYCE CREEK COURT	A86	63	0+124.975	62	0+040.133	0.4	0.5	0.2	0.605	1.21	100.780	0.1694	83.65	0.49	450	0.2081	1.27	1.10	13.22
BOYCE CREEK COURT	A87	62	0+040.133	61	0+001.497	0.18	0.5	0.09	1.115	1.99	96.749	0.2997	40.08	0.6	525	0.3474	1.56	0.43	13.65
ATCHISON DRIVE	A88	74	0+048.714	61	0+087.866	0.2	0.7	0.14	0.14	0.2	90.907	0.0354	38.27	0.98	300	0.0998	1.37	0.47	15.47
BLOCK 163	A89	116	0+001.496	61	0+059.519	0.59	0.7	0.413	0.413	0.59	139.288	0.1598	10.80	1	375	0.1828	1.60	0.11	5.11
ATCHISON DRIVE (HE 975x1535)	A90	61X	0	5	0+059.519	0	0.5	0	1.793	3.03	87.001	0.4333	11.20	0.2	1200	1.8180	1.56	0.12	16.45
STREET I	A91	5	0+175.181	4	0+230.980	0.44	0.7	0.308	12.094	27.32	73.154	2.4576	66.65	0.2	1650	4.2502	1.93	0.58	22.87
STREET I	A92	4	0+175.927	3	0+097.540	0.2	0.7	0.14	12.234	27.52	72.059	2.4488	43.72	0.18	1650	4.0321	1.83	0.40	23.27
RLCB	A93	RLCB1	0	3	0+266.217	0.98	0.25	0.245	0.245	0.98	90.907	0.0619	38.89	2	250	0.0877	1.73	0.37	15.37
BLOCK 122	A94	117	0	3	0+266.217	0.93	0.7	0.651	0.651	0.93	139.288	0.2519	12.00	1	450	0.2973	1.81	0.11	5.11
STREET I		3	0+115.697	2	0+266.217	0	0	0	13.13	29.43	71.321	2.6012	43.39	0.28	1650	5.0289	2.28	0.32	23.58
STREET I	A95+A96	2	0+266.217	1	0+211.90	0.4	0.7	0.28	13.41	29.83	70.746	2.6353	31.93	0.22	1650	4.4576	2.02	0.26	23.85
STREET K	A97	72	0+266.217	71	0	0.65	0.7	0.455	0.455	0.65	139.288	0.176	86.40	0.4	450	0.1880	1.15	1.26	6.26
STREET K	A98	71	0+266.217	PLUG2	0	0.44	0.7	0.308	0.763	1.09	130.333	0.276	106.65	0.4	525	0.2836	1.27	1.40	7.66
STREET K		PLUG2	0+266.217	69	0	0	0	0	0.763	1.09	121.697	0.258	78.20	0.4	525	0.2836	1.27	1.03	8.68
FUTURE BLOCK	A99	110D	0+266.217	69	0	0.77	0.7	0.539	0.539	0.77	139.288	0.209	9.50	1.25	450	0.3324	2.03	0.08	5.08
STREET I		69	0+266.217	68	0	0	0.7	0	1.302	1.86	116.102	0.420	54.50	0.27	750	0.6032	1.32	0.69	9.37
STREET I		68	0+266.217	1	0	0	0.7	0	1.302	1.86	112.656	0.407	17.68	0.17	750	0.4786	1.05	0.28	9.65
STREET I		1	0+211.90	HW1	0	0	0.7	0	14.712	31.69	70.276	2.872	6.11	0.2	1650	4.2502	1.93	0.05	23.90
EXTERNAL FLOW FROM NORTH TO INNISLAKE PHASE 2																			
EASEMENT LOT 213-214	A100+EXT.	DITCH1	0+009.439	85	0+064.834	36.32	0.2	7.264	7.264	36.32	21.946	0.443	39.10	1.38	675	1.0296	2.79	0.23	120.23
EASEMENT LOT 213-214	A101 (CBMH)	85	0+064.834	84	0+134.119	0.38	0.4	0.152	7.416	36.7	21.911	0.451	69.29	0.427	675	0.5727	1.55	0.74	120.98
McCANDLESS COURT	A102	84	0+343.662	83	0+257.496	0.42	0.4	0.168	7.584	37.12	21.803	0.459	94.59	1.64	675	1.1225	3.04	0.52	121.50
INNIS LAKE ROAD		83	0+265.287	82	0+253.485	0	0.4	0	7.584	37.12	21.728	0.458	150.00	2.5	675	1.3859	3.75	0.67	122.16
INNIS LAKE ROAD		82	0+253.485	81	0+187.158	0	0.4	0	7.584	37.12	21.632	0.456	81.45	0.5	675	0.6198	1.68	0.81	122.97
INNIS LAKE ROAD		81	0+187.158	80	0+122.123	0	0.4	0	7.584	37.12	21.517	0.453	46.70	0.3	750	0.6358	1.39	0.56	123.53
DITCH CSP	A103+A104	CSP1	0+253.485	80	0	0.43	0.7	0.301	0.301	0.43	90.907	0.076	4.30	3	600	1.1089	3.80	0.02	15.02
INNIS LAKE ROAD		80	0+187.158	79	0	0	0.4	0	7.885	37.55	21.439	0.470	4.40	0.3	750	0.6358	1.39	0.05	123.58
DITCH INLET	A105	DITCH2	0+187.158	EXCSP1	0	0.33	0.4	0.132	0.132	0.33	90.907	0.033	5.40	1	250	0.0620	1.22	0.07	15.07
INNIS LAKE ROAD		79	0+122.123	EXCSP1	0	0	0.4	0	7.885	37.55	21.431	0.469	23.80	0.05	1200	0.9090	0.78	0.51	124.09
POND OUTLET																			

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TOWN OF CALEDON

PUBLIC WORKS AND ENGINEERING DEPARTMENT
STORM DRAINAGE DESIGN CHART
FOR CIRCULAR DRAINS FLOWING FULL

Rainfall Intensity = $\frac{A}{(Tc+B)^c}$ 5yr Storm

A= 1593
B= 11
C= 0.8789

PHASE 1
PHASE 2

Starting Tc = 15 min

Date: 22-Dec-17
Project: Chateaux of Caledon
Project No: L08-378
Designed by: AR/RM
Checked by: AR

*Equivalent circular pipe shown for elliptical pipe noted

LOCATION						DRAINAGE AREA					RAINFALL	FLOW	LENGTH	SLOPE	PIPE	FULL FLOW	FULL FLOW	SECTION	TIME OF
						COEFFICIENT			"AR"	AREA					DIAMETER	CAPACITY	VELOCITY	CONCENTRATION	CONCENTRATION
STREET	AREA ID	FROM		TO		A	C	A*C	CUMUL.	CUMUL.	INTENSITY							TIME	
		MH	Sta.	MH	Sta.	(ha)			A*C	A	(mm/hr)	(m3/s)	(m)	(%)	(mm)	(m3/s)	(m/s)	(min)	(min)
POND OUTLET (4hr TC)		93	0+559.686	92	0+662.48	0	0.4	0	0	0	42.962	0.330	20.76	0.82	525	0.4061	1.82	0.19	50.19
EASEMENT POND OUTLET		92	0+662.48	91	0+668.480	0	0.4	0	0	0	42.845	0.330	82.31	0.39	750	0.7249	1.59	0.86	51.05
EASEMENT POND OUTLET		91	1+568.747	90	1+418.747	0	0	0	0	0	42.321	0.331	21.35	1.03	750	1.1781	2.58	0.14	51.19
OUTFALL		90	1+418.747	89	1+668.480	0	0	0	0	0	42.239	0.331	9.10	0.4	750	0.7342	1.61	0.09	51.28
OUTFALL		89	1+668.480	88	1+286.062	0	0	0	0	0	42.183	0.331	140.00	0.4	750	0.7342	1.61	1.45	52.73
OUTFALL		88	1+286.062	87	1+284.047	0	0	0	0	0	41.339	0.331	120.82	1.03	750	1.1781	2.58	0.78	53.51
OUTFALL		87	0	HW3	88.416	0	0	0	0	0	40.900	0.000	20.00	1.5	750	1.4217	3.12	0.11	53.62
EXSITING SCHOOL ON INNIS LAKE ROAD																			
EX. SCHOOL	A106	DICB	88.416	101	0+053.277	1.06	0.75	0.795	0.795	1.06	109.677	0.242	14.5	0.45	525	0.3008	1.35	0.18	10.18
INNIS LAKE	A107	101	88.416	100	0+053.277	0.14	0.7	0.098	0.893	1.2	139.288	0.346	47.70	0.4	600	0.4049	1.39	0.57	5.57
EX. SCHOOL	EXT.	CULVERT	1+668.480	100	0+053.277	0.43	0.75	0.323	0.3225	0.43	90.907	0.081	22.80	0.83	525	0.4085	1.83	0.21	15.21
INNIS LAKE		100	1+286.062	99	0+053.277	0	0	0	1.2155	1.63	90.273	0.305	76.40	0.4	600	0.4049	1.39	0.92	16.13
INNISLAKE CB	A108	CB	1+284.047	99	0+053.277	0.17	0.7	0.119	0.119	0.17	90.907	0.030	4.60	1	300	0.1008	1.38	0.06	15.06
INNISLAKE		99	0	98	0+053.277	0	0	0	1.3345	1.8	87.584	0.325	14.20	0.4	600	0.4049	1.39	0.17	16.30
PROP. STORM CATCHBASINS ON OLD CHURCH																			
OLD CHURCH	A109	CB4	0	CBMH2	0+053.277	0.34	0.7	0.238	0.238	0.34	139.288	0.092	89.90	0.4	375	0.1156	1.01	1.48	6.48
OLD CHURCH	A110	CBMH2	0	98	0+053.277	0.31	0.7	0.217	0.455	0.65	128.890	0.163	29.10	0.4	450	0.1880	1.15	0.42	6.90
INNIS LAKE OUTLET HEADWALL 2																			
INNIS LAKE		98	88.416	97	0+053.277	0	0	0	1.7895	2.45	87.103	0.433	28.70	0.45	675	0.5880	1.59	0.30	16.60
INNIS LAKE		97	88.416	HW2	0+053.277	0	0	0	1.7895	2.45	86.269	0.429	7.50	0.45	675	0.5880	1.59	0.08	16.67

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CHATEAUX OF CALEDON
FOUNDATION DRAIN DESIGN

TOWN OF CALEDON

DESIGNED BY: . N. Li
CHECKED BY: . A. Ribeiro
DATE : November 16, 2011
SUBMISSION: Submited for Approval

LOCATION				FLOW						FOUNDATION DRAIN DESIGN				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
STREET	FROM MH#	TO MH #	NO. OF LOTS	FLOW FROM LOTS =(4)X0.075 L/s	ACCUMULATED FLOW FROM LOTS	SECTION AREA (ha)	ACCUMULATED AREA (ha)	INFILTRATION =(8)*0.26 L/s/ha	TOTAL FLOW =(6)+(9) L/s	PIPE LENGTH (m)	SLOPE (%)	DIAMETER (mm)	FULL FLOW VELOCITY V (m/s)	FULL FLOW CAPACITY Q (L/s)
McCardy Court	96	95	32	2.400	2.400	0.13	0.13	0.03	2.43	115.0	0.89	200	0.99	31.423
McCardy Court	95	94	25	1.875	4.275	0.09	0.22	0.06	4.33	100.0	0.53	200	0.76	24.249
McCardy Court	94	91	2	0.150	4.425	0.12	0.34	0.09	4.51	67.5	1.00	200	1.05	33.308